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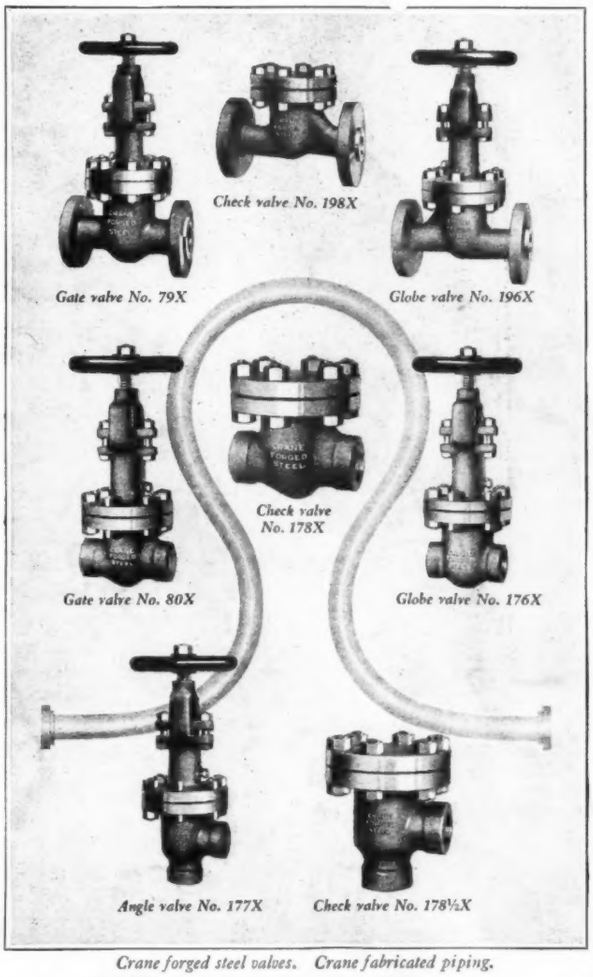
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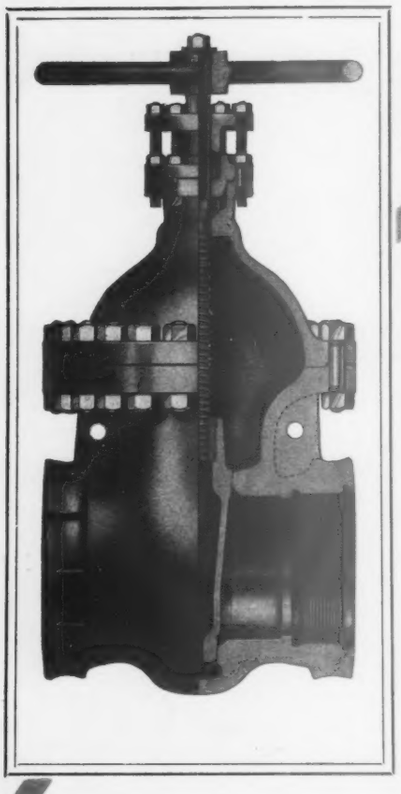

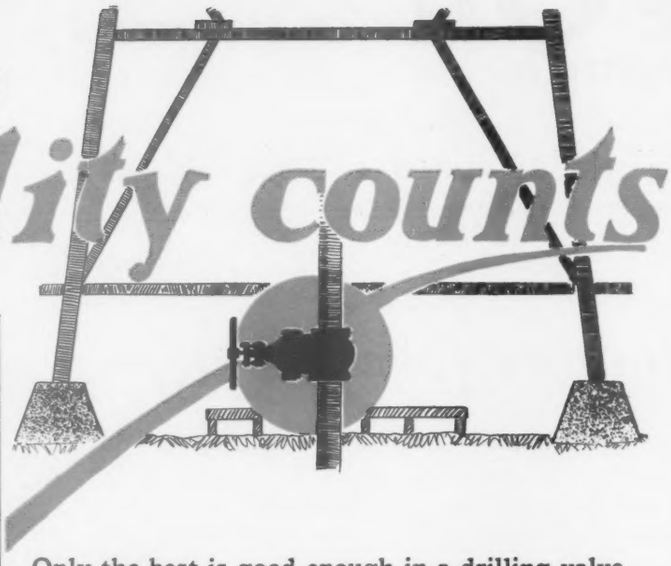

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PRODUCING REFINING MARKETING

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Seal Beach and Seminole Hold Interest

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

Production in Latter Area Expected to Maintain High Average for Next 60 Days. New Sand in Former Field

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

Two producing areas in the United States—the Seminole Field in Oklahoma and the Seal Beach Field in California—divided interest during the past week. These areas were directly responsible for the increase shown in crude oil production, the Texas Panhandle, West Texas and North Texas showing declines while other areas remained much the same as during the previous week. The possible discovery of a new producing horizon in the Alamitos Heights section of the Seal Beach Field is an important development there, although more drilling will be necessary before an accurate estimate of the potentialities of the second sand can be made.

The Seminole Field attained a production of 395,000 barrels for the 24 hours ending Sunday morning of this week and then dropped down to 383,000 barrels on Tuesday of this week. Completion of good wells are necessary in that area to maintain production. However, a sufficient number of wells are drilling around or below 4,000 feet to assure enough completions to hold production around its present level for some time. After a close study of the situation obtaining in the Seminole City Pool proper, Bowlegs and Earlsboro, one operator gave as his opinion production in the Seminole area will average around 365,000 barrels for the next 60 days, at the end of which time a substantial decline may be expected to set in.

As producing wells in Seminole proper and Bowlegs fall off in output, new wells must be added to hold up production. Drilling operations now under way will result in enough completions to offset the decline of producers during this six weeks' period. By that time the productive territory will have been drilled sufficiently that new wells will be unable to offset the decline and a drop in output may be expected.

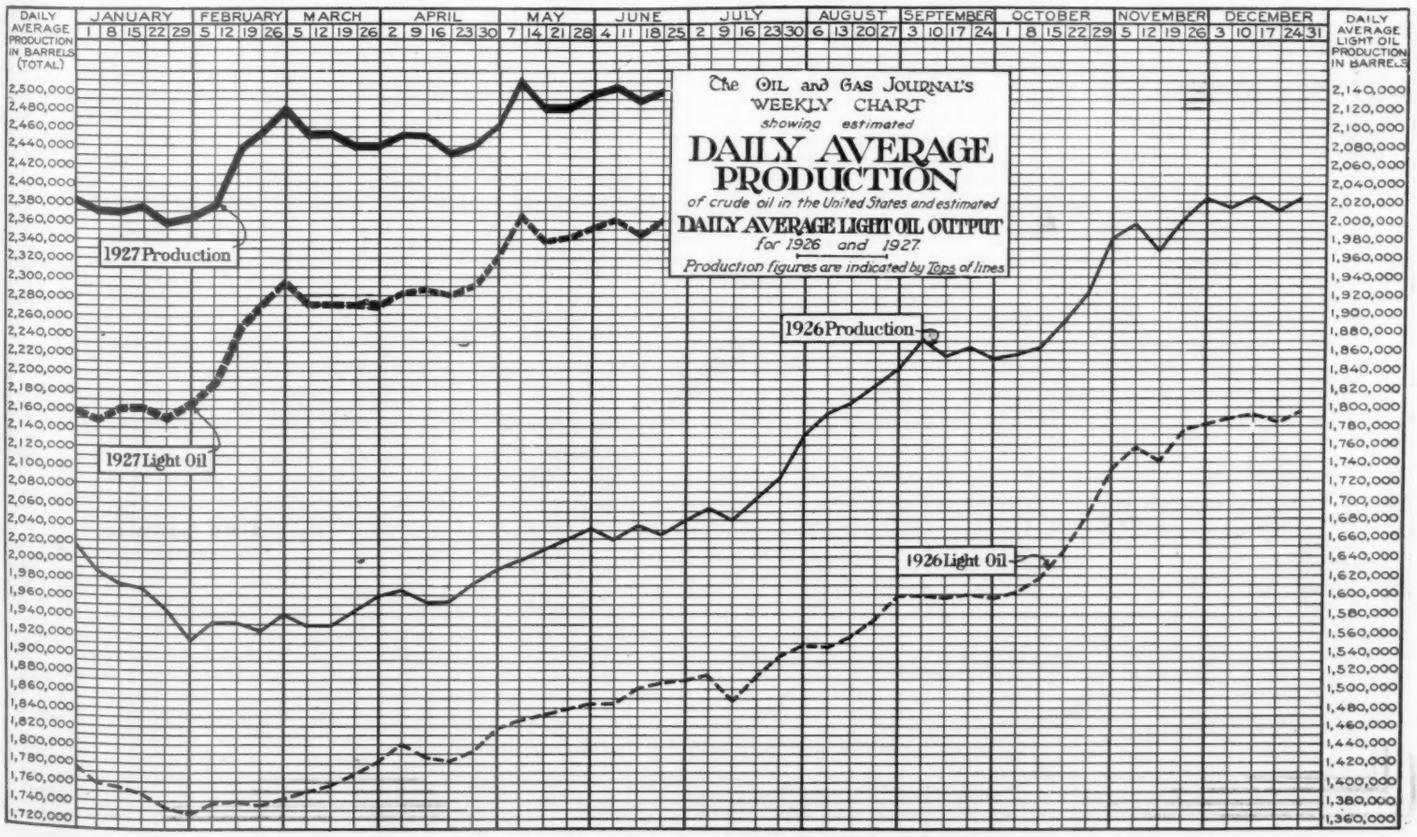
Crude oil purchasing companies in the Mid-Continent are actively soliciting crude and the season of the year has arrived when much of the population will spend a large part of the time in automobiles. Consumption is increasing as expected despite unseasonable weather and a big consumption is by far the most vital factor in the present situation.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended June 18, and a comparison with the previous week follows:

	June 18		June 11	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	21,730	.....	21,620	.....
Burbank	44,105	.....	45,645	.....
Other Osage Fields	32,010	.....	32,330	.....
Cushing and Shamrock	21,380	.....	21,410	.....
Bristow and Eastern Bristow	26,570	.....	26,740	.....
Cromwell	12,945	.....	12,950	.....
Garber	14,020	.....	14,220	.....
Blackwell-Braman	11,860	.....	12,205	.....
Seminole	379,510	.....	362,280	.....
Wewoka	18,735	.....	18,700	.....
Northern Miscellaneous	114,985	.....	114,180	.....
Southern Fields	67,890	.....	68,060	.....
Total Oklahoma	765,740	.....	750,340	.....
North Louisiana	40,185	9,130	39,755	8,610
Arkansas	24,025	88,560	24,230	87,520
North Central Texas	162,190	.....	164,435	.....
West Texas	109,950	.....	112,009	.....
Texas Panhandle	124,225	.....	126,920	.....
East Central Texas	34,453	.....	34,355	.....
Kansas	112,315	.....	112,560	.....
Total Mid-Continent Area	1,373,083	97,690	1,364,604	96,130
Gulf Coast	.....	153,456	.....	153,490
Southwest Texas	.....	34,337	.....	34,850
Eastern	112,500	.....	113,500	.....
Rocky Mountain Area	85,356	.....	84,990	.....
California—				
Santa Fe Springs	42,000	.....	42,000	.....
Long Beach	92,500	.....	95,000	.....
Torrance	6,000	17,500	6,000	17,500
Huntington Beach	76,000	.....	75,000	.....
Dominguez	16,000	.....	16,000	.....
Rosecrans	10,000	.....	10,500	.....
Inglewood	23,000	12,000	24,000	12,000
Ventura Avenue	36,500	.....	36,000	.....
Seal Beach	74,000	.....	65,000	.....
Remainder of State	55,000	187,000	57,000	189,000
Total California	431,000	216,500	426,500	218,500
Total United States	2,001,939	501,983	1,989,594	502,970
Grand Total	2,503,922		2,492,564	

→ **Total Increase, 11,358 Bbls.; Light Oil Increase, 12,345 Bbls.** ←



Trade Discusses Gasoline Contracts

Oklahoma Refiners Want New Agreements on Different Basis. Only Minor Changes in Spot Market During Week

By C. O. Willson

With no special developments in the spot market demanding their immediate attention, buyers and sellers in the Oklahoma (Group 3) refined market were giving considerable time during the past week to the discussion of long-time contracts covering the sale of gasolines when present agreements expire.

In regard to the spot market there were practically no price changes except for a continuance of a decline in natural gasoline prices. All grades are off an additional one-fourth to one-half cent under the previous week. The lower prices have not yet attracted sufficient new buying to stop the decline, although present quotations are down to the low levels of April and early May.

Refinery gasolines are marking time. The spot market is not active, but the movement on contracts is generally satisfactory, and this fact to date has prevented any large quantities of excess material being offered at lower prices in the open market. Sellers apparently will be satisfied if present prices can be maintained over the balance of the month. Kerosenes continued weak with one-eighth cent price reduction for the week. Fuel oils, gas oils and distillates were steady the first of the week.

Gasoline Contracts

The early discussion of gasoline contracts for the coming year can be explained as a development of the fact that the contracts now in force are not generally satisfactory to the refiners who are hoping to work out more equitable agreements before the time comes for renewal. As is generally known, most of the contracts now in force are based on the spot market as determined by trade journal quotations. Some of the contracts have maximum and minimum provisions based on tank wagon or service station prices or some arbitrary figure, but conditions since the first of the year have been such that they have seldom been effective.

When the so-called spot market first was suggested about three years ago as the basis for all contracts between refiners and jobbers in gasoline tank car shipments, it was thought it would tend to eliminate the dissatisfaction with the former agreements based on tank wagon prices in the territory where the gasoline was retailed by the jobber. In the past three years the practice of using the spot market as the basis of gasoline has spread rapidly so that at present almost all long and short-time agreements carry that provision.

For several months it has been apparent that this type contract was not the "cure all" hoped for, especially from the viewpoint of refiners. Gasoline prices as determined weekly or daily from published quotations have been too low to permit generally profitable operation in the Mid-Continent Field, according to the refiners, and the present method of making contracts is held partially or wholly responsible for this situation.

The viewpoint of the refiner can readily be appreciated. The common practice of many refiners now is to sell the bulk of their gasoline output at a price to be based on published quotations on date of delivery. The remaining gasoline is sold on the spot market from day to day. It is contended that this gasoline sold from day to day really represents excess material which is sold at distress prices. The price received for this gasoline would not be particularly important were it not that it establishes the basis on which the refinery's entire gasoline output is sold. In brief, as explained by one refiner, the present contractual agreements in Oklahoma and Kansas mean that practically all gasoline is marketed on a price basis established by 10 to 15 per cent of the total output usually sold at distress prices because there is no certain outlet.

Suggested New Contract

With a general agreement among the sellers that something must be done to bring about a change in this situation next year, various remedies are being of-

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REFINED MARKET BAROMETER

A general weakness in the domestic kerosene market was apparent in refinery tank car sales throughout the United States during the past week. The export kerosene situation has been aided by a heavy movement to the Orient trade. Reports from the West Coast, however, are to the effect that this movement will fall off in the near future. The weakness in the domestic market is explained as due to seasonal falling off in demand without a corresponding decrease in production. Refinery gasoline prices during the past week were generally unchanged, although the demand east of the Rocky Mountains was not active due in part to unfavorable weather conditions. Natural gasolines continue very weak in the Mid-Continent and adjoining areas. Fuel oils and gas oils were firm at interior points. The heavy movement of California fuel oils continues to disturb the market situation on the Atlantic Coast. No important changes were reported in lubricants or wax.

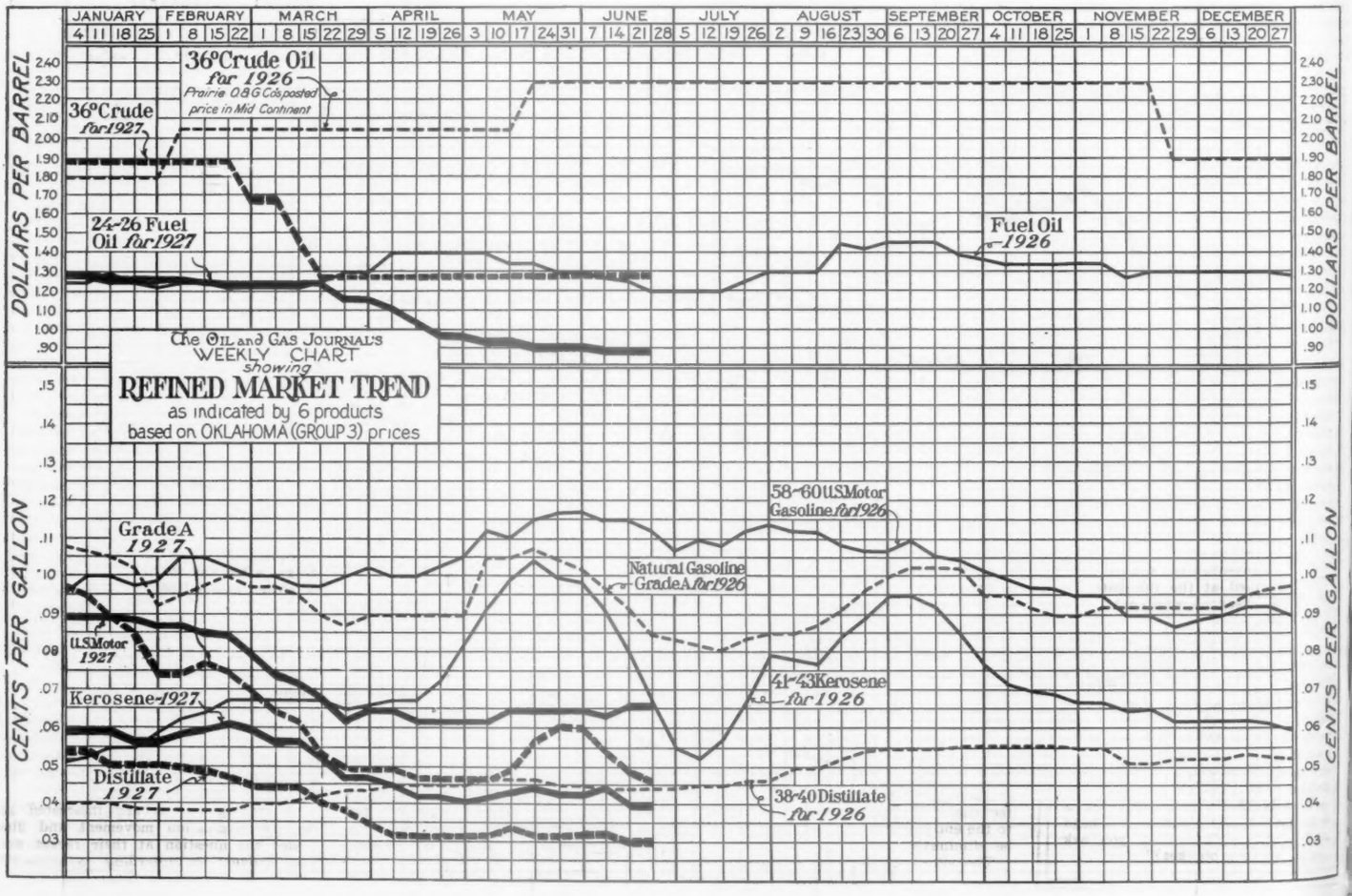
Mid-Continent—Refinery gasoline prices firm, although spot market not active in any grade. Natural gasoline prices reduced one-quarter to one-half cent in all areas. Fuel oils and gas oils steady. Kerosene weak. No change in distillates, lubricants or wax.

Atlantic Seaboard—Market generally quiet. California competition held responsible for uncertainty regarding future gasoline prices. Kerosene weak and prices lower. California material dominates fuel oil market. Lubricants steady. Wax inactive. Export gasoline in cases reduced one-half cent. Bulk gasoline market quiet.

Pennsylvania—Cylinder and bright stock prices reduced. No change in gasoline. Kerosene weak. Good demand for neutrals.

California—Better tone in domestic gasoline market due to greater demand. Export and coastwise movement heavy. Good export movement of kerosene to Orient. Other products unchanged.

Chicago—Rainy weather throughout territory first of week reflected in inactive gasoline demand from jobbing trade. Gasoline prices unchanged. Kerosene easy. Fuel oils and furnace oils firm. Natural gasolines weak.



Oil Field Standardization Up to Users

Colorado Springs Conference Practically Completed All Specifications. To Develop Code of Field Practice

By Andrew M. Rowley

COLORADO SPRINGS, Colo., June 18.—Standardization of equipment for the petroleum industry is no longer a dream—it is an actuality, as far as specifications are concerned, and is already enjoying almost universal practice in California and gaining headway in other oil centers of the country. This is the gist of reports made by national chairmen of the 10 different committees on the standardization of oil field drilling and producing equipment during the third semiannual conference of members of these committees held here this week. The conference, acclaimed as the most successful in point of results accomplished and in attendance, ever held, put the finishing touches on specifications covering every line of oil country equipment, with the exception of certain types of tanks, so that at this time A. P. I. standards and specifications have been completed and adopted and are ready for use by manufacturers of belting, boilers, cable tool drilling joints, standard rigs and derricks, tubular goods, rig irons, rotary drilling equipment, wire rope and manila cordage, pumping equipment and engines, and bolted tanks up to and including a capacity of 10,000 bbls.

More than 200 leading engineers, oil company officials and manufacturers of equipment used in the petroleum industry gathered here last Tuesday to give of their experience and knowledge of equipment problems to the end that a saving of approximately $200,000,000 a year might eventually be made by the petroleum industry through the introduction and use of equipment manufactured according to standards and specifications approved by the different committees of the American Petroleum Institute assigned to consider the different classifications of equipment. Starting a day before the conference was scheduled to open, members of these committees worked morning, afternoon and night whipping into shape specifications and standards in order that manufacturers might start at the earliest possible moment to supply equipment according to A. P. I. specifications for all oil field drilling and producing needs.

Great Headway Made at Conference

For the first time in the history of the petroleum industry all oil country tubular goods have been standardized, the adoption of specifications for line pipe at the Colorado Springs conference completing the cycle, as specifications already had been completed and adopted on casing, tubing and drill pipe.

Specifications have been practically completed and adopted on all equipment and material used in the petroleum industry with the exception of some types of tankage. Specifications were adopted at the Colorado Springs conference on all bolted tanks up to and including 10,000 barrels capacity.

Other outstanding developments of the Colorado Springs conference were the completion and adoption of specifications on details on gauges for rotary tool joints; on details on gauges for sucker rods; on details on gauges for working barrels; and minor details and specifications on internal combustion engines.

That the use of equipment manufactured according to A.P.I. standards and specifications is almost universal in California and rapidly growing and extending through the Mid-Continent, Gulf Coast and Eastern fields was the report made by chairmen of various committees.

Practically every manufacturer of oil country goods is vitally interested in standardization and with the adoption of specifications on almost every form of oil field equipment by the different standardization committees, manufacturers throughout the country, who have not already done so, are considering making whatever changes necessary to have their products conform to A.P.I. standards and specifications.

The Oil Buyers Group of the National Purchasing Agents Association discussed A.P.I. standardization at their recent convention and are displaying such an intensive interest in the extent to which standardized oil field equipment is being used it was recommended that a member of this group be placed on each committee on standardization of the Institute.

All Factors Co-Operate

The conference was characterized by a spirit of hearty co-operation between manufacturers and users of oil country equipment. When difficulties arose in committee rooms over some form of specification or standard, a "give-and-take" attitude immediately made itself felt and the problems were ironed out to the apparent satisfaction of all concerned. The manufacturers are as anxious to provide the equipment desired by the petroleum industry as are the users of this equipment to procure it for each class will reap extensive benefits as standardized products are made available everywhere to the petroleum industry and these products come into universal use.

Standardization will eliminate a great and costly economic waste; it will permit an interchange of parts resulting in a vast saving of time, a big reduction in the amount of material companies have had to carry in stock; will permit manufacturers to make more prompt shipment; will reduce the stocks manufacturers now must keep on hand; will simplify field operations and practice; will speed up such operations; and will permit manufacturers and users alike to keep a better check on performance of equipment to the end uneconomic field practices may be eliminated.

The situation relating to standardization of oil field equipment, as indicated by the discussions at the conference here this week and the personal statements of manufacturers, engineers, company officials and others attending the meeting, may be summarized in this way: Everyone believes great benefits will accrue from complete standardization of petroleum industry equipment. Manufacturers are entirely willing to supply equipment according to A. P. I. specifications and standards, providing users of this equipment demand A. P. I. specifications. Engineers believe standardization will be a great saving to the entire industry and will result in greater efficiency, speed up operations and simplify the work. These engineers are being consulted more and more by purchasing agents of the large companies and this fact has a tendency to bring more standardized equipment into use. Field men in the Mid-Continent and eastern fields have not as yet been "sold" on the standardization idea and until they are educated along the line of benefits of standardization, no rapid progress can be expected toward a widespread use of standardized equipment.

Now Up to the User

In other words, the whole thing in a nutshell seems to be the engineers and others on the standardization committees, after years of work, have finally completed and adopted specifications for all lines of oil field producing and drilling equipment. Manufacturers have approved these specifications and are willing to make the equipment according to A. P. I. specifications and standards. However, as long as users continue to order equipment along the old lines, manufacturers will make this equipment and will not start any big production of A. P. I. standard equipment until users demand it.

The big problem of the American Petroleum Institute and the members of the standardization committees now seems to be to get the field men interested in the subject; to get these field men to attend the standardization meetings; to interest additional executives of the different companies in the question and have these executives instruct their purchasing agents to give preference where possible to standardized equipment; to educate field men in the care and use of all equipment and to keep records on the service rendered by equipment.

While specifications have been completed and approved on practically all lines of oil field equipment, the work of the standardization committees was not by any means completed at the conference here. The idea that when specifications are completed and approved, they are final, is erroneous. As these specifications are tried out in actual field practice, the necessity for changes often develops and improvements in equipment are being made constantly, necessitating consideration from the standardization committees in order that these improvements may be included in the specifications and standards.

Another angle of the situation, developed at the meeting here, is the fact there is a tendency upon the part of field men to constantly increase the load placed on A. P. I. equipment when it is found this equipment will bear more of a burden than other supplies. In order that this situation might be investigated properly, a committee on power correlation was appointed as follows: C. C. Sharpenberg, chairman; T. E. Swigart and D. S. Faulkner.

Code of Field Practice

Of especial importance to the entire petroleum industry is the development of a code of field practice which is expected to eliminate great losses due to unintelligent handling of equipment and supplies in the field. Belting, wire lines and practically all other forms of equipment, when used improperly, fail to give satisfactory service and, in many cases, manufacturers are blamed whereas the fault is due entirely to wrong installation or improper care and use. A correlating committee on field codes was appointed at the meeting here as follows: Capt. J. F. Lucey, chairman; W. W. Fondren, Charles Fitzgerald and Carl A. Young. Service records already are being kept by many companies, it was reported, and the committee appointed will work along the line of getting a proper evaluation of equipment together with a system of educating field men as to best methods in the care and use of equipment.

That the standardization movement is not a theoretical proposition was indicated by statements made by chairmen of various committees. As one chairman stated his position: "This is a give and take proposition. We want to co-operate fully with manufacturers and users of equipment. We intend to get what we are after and we will not be deterred by either associations or manufacturers. The A. P. I. will set up certain specifications and if certain manufacturers are not willing to make equipment according to these specifications, we will buy from other manufacturers. We do not intend to be high-hatted about this matter but we are serious and those who do not go along—well, it will be just their hard luck. The other fellow will certainly get our business. We are reasonable and open to all suggestions but we will not brook unjust opposition."

Purchasing agents are interested in the standardization movement and discussed the question at their recent annual convention, according to a report

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BRAINS OF INDUSTRY WELL REPRESENTED ON PIKE'S PEAK TRIP

When the committees on standardization of the A. P. I. adjourned rather early last Thursday because the members were about worn out through the strenuous morning, afternoon and night sessions which had been held, many of the oil men availed themselves of the opportunity of visiting Pike's Peak. Among these were Ralph V. Hanrahan, president of the Humble Pipe Line Co., of Houston, Tex.; F. Ray McGrew, president of the Standard Pipe Line Co., of Shreveport, La., and others. Mr. Hanrahan was dressed in the latest summer fashion, including a Panama hat. However, Panama hats were taboo on Pike's Peak last Thursday as quite a snow storm was raging and the weather was below freezing up there. Consequently when the party stopped at the toll gate on the road, everyone wanted to rent caps and overcoats. The overcoats were easy to get but Mr. Hanrahan had considerable difficulty in trying to get a cap. He claims he wears only a No. 8 but he could not find a cap to fit him. The young lady at the toll gate offered her assistance, but although she brought out numerous boxes with all sizes of caps, none would fit Mr. Hanrahan.

Finally the young lady took a long look at Mr. Hanrahan's head and said: "Mister, did you ask for a cap or a blanket?"

Standardization Must Be Sold Industry

Four Factors Involved and None Entirely Convinced of Success of Movement. Widespread Education Needed

By Capt. J. F. Lucey

National Chairman, Special Committee on Standardization of Rotary Drilling Equipment.

If I can visualize the future of standardization, before it can be a complete success, four factors must be brought into agreement and in thorough accord as to the aim and needs of standardization. The board of directors of the American Petroleum Institute passed a very sweeping resolution stating that standardization was desirable and necessary. Armed with that sweeping authority from perhaps 75 per cent of the executives, representing 75 per cent of the capital invested in the oil industry, it seemed an easy problem to formulate a standardization policy.

Experience and observation have convinced me that four factors are involved before standardization can be a practical success, and these four factors must be brought into harmonious agreement. Each factor must be convinced that standardization is in his own personal interest, reducing his investment in stocks, reducing his operating costs, increasing efficiency in operation, with minimum losses through obsolete stocks, accidents and delays. Unless standardization will bring about all of these things it will not be a success and we are not advocating or working toward an economic situation. Personally, I believe that the oil industry and affiliated branches will profit by the final adoption of standards.

Four Factors Involved

The problem, as I see it, is from the manufacturer to the consumer, the four factors involved being, first, the manufacturer; second, the distributor (who is the supply company); third, the consumer or the operator in the field; and, fourth, and in my opinion for the putting into effect of our program the most important, that of maintenance and repair, which includes the field service shop.

The purpose of this article is to state that none of these factors is completely sold on standardization; that neither manufacturer, distributor, consumer nor field service shops is completely or thoroughly convinced that standardization is or will be a success. While it is true that many of the organizations in all four of the factors represented are co-operating whole-heartedly, speaking particularly from the standpoint of the rotary committee and in general from my observation of the progress of standardization as a whole, no one factor is completely sold on standardization or that it will ever be an accomplished fact.

In reviewing the work of the rotary standardization committee I stated that it was my intention at this meeting to make this very broad and sweeping statement, and I did not wish to misrepresent the views of my committee and that I would be glad to hear from them so that I would not misrepresent their views.

Opinions of Committeemen

From the transcript of proceedings of the rotary committee, I quote some of the members, as follows:

Mr. Higgins (secretary of the Chamber of Mines and Oil, Los Angeles, Calif.): "There is a need for selling the standardization program to the operator. That has not made much headway. I think the industry ought to be educated to realize that a thing of this magnitude cannot be done over night and cannot be perfected over night."

Mr. Hill (Union Oil Co.): "I would like to say that in California I think we can segregate our operators into two classes. One is the fellow that is willing to 'let George do it' and he will abide by most anything his hard-working men will provide for him. The other fellow is hard headed and he wants to go along those lines he has chosen. I believe it is highly desirable that some systematic effort be made to bring the operators in line. We have had very small attendances at our last meetings on standardization. They apparently have either lost interest in it or, as I say, they are waiting for the leaders to go ahead and develop something for them."

Mr. Smith (Miley Corp.): "I think possibly I represent one of the group that Mr. Hill mentioned as 'hard-headed operators.' I was on the committees but never attended. I was busy in field work, and I am in direct control of certain field operations in Los Angeles County, California. It seems to be the consensus of opinion among the field men that if they see anything with A. P. I. on it they say, 'I don't like it.' The reason for that is this: When the standardization program was first instituted there were a few mistakes—there were bound to be—and that is the idea in the field, that a bunch of engineers and pencil pushers were trying to run the oil business, and, anyway, there is a certain antagonism toward this standardization policy, especially among the superintendents and tool pushers."

An Operator's Problem

Mr. Faulkner (Union Tool Co.): "Standardization is an operator's program all the way through, and we as manufacturers would like to see the field get behind it a little stronger than it has. For instance, take more interest in the meetings and bring more ideas in, because it is only by getting the ideas of practical men that we can work out satisfactory standards."

Mr. Keim (Oil Well Supply Co.): "I think the hardest control to get will be that of the drilling contractor. Most of your meetings have been attended by operators, a large number of whom do their own drilling, and they have got that pretty well in their own hands, but what about the drilling contractor who is, perhaps, more bound by the old traditions than the operators who attend these meetings."

Mr. Greve (chief engineer, Oil Well Supply Co.): "For seven or eight years we have been fighting rig irons. It seems to me that we should put over one thing at a time, some one subject that we can point to that we have standardized on. We cannot point to a single thing and say, 'We put it over.'"

Suggestion for Repairs

Mr. Black (Beaumont Iron Works): "I have been among the small shops in our territory and have kept more or less in touch with them all the time, and I find that one of the problems that is going to confront this organization is to get even the tool joint standard over unless we can provide some means by which they can get repairs made in the field accurately. The small shop does not have the money to buy the A. P. I. gauges. I suggested to a group of small field shops that they purchase among them a set of gauges and that I would be the custodian, that I would act as custodian and check their gauges and they could manufacture their working gauges themselves."

Mr. Harris (Humble Oil Co.): "I think it is up to the men in the big companies to educate their own men down the line. You can send these bulletins out to them and they will throw them in their desk, if they have a desk, and if they have not they will put them under the seat and that will be the end of it."

Mr. Evans (Lucey Manufacturing Corp.) states that standardization is a complete success in so far as foreign fields are concerned.

It seems to me that from these letters and excerpts from our own manufacturers, and based on my own personal observations in the field and contact with

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A.P.I. Is Urged to Study Corrosion

Tentative Report of Committee Named to Investigate Subject Approved at Standardization Conference

By Andrew M. Rowley

COLORADO SPRINGS, Colo, June 18 Recommendations that the American Petroleum Institute undertake for the petroleum industry co-operative work with the object of eliminating or minimizing corrosion losses in all branches of the industry, contained in the preliminary report of the corrosion committee appointed by the Board of Directors of the Institute to study the question, were approved at a general session held during the third semiannual conference on standardization conducted here this week.

It was pointed out during the meeting that corrosion is costing the petroleum industry in excess of $100,000,000 each year and that this loss and a consideration of the problem are of vital importance to the marine, refining, producing and transportation branches of the business. The loss to pipe lines alone, it was said, runs between 2 and 20 per cent of the value of the lines every year, while refiners lose at least $44,500,000 each year through corrosion.

Institute Interested

Frank N. Speller, chief metallurgist of the National Tube Co., chairman of the committee appointed by the Board of Directors of the Institute to study the question of whether the institute should include a study of corrosion in its activities, outlined the preliminary report at the meeting and W. R. Boyd, Jr., assistant general secretary and counsel of the institute, and E. W. Clark, president of the institute, both of whom attended the meeting, voiced their interest in the subject and indicated the institute would be prepared to act on the report of the corrosion committee when it was formally presented to the board of directors.

It was also said during the meeting a recommendation will be made that an associate be placed in the United States Bureau of Standards to aid in the study of soil corrosion. When the study of corrosion by the corrosion committee gets under way, a technical secretary or director probably will be employed to take charge of the correlation of data and to direct the dissemination of information on the subject to members of the Institute.

Report Tentative

The preliminary report of the corrosion committee, approved at the general session held here Thursday night, is merely tentative and will be presented to President Clark of the institute within a few weeks, together with suggested details of the proposed organization, including regional committees, chairmen of which will form the main corrosion committee.

The tentative report, as discussed at the open meeting here this week, follows:

"The committee appointed February 17, 1927 to consider the corrosion problem in the oil and gas industry has carefully canvassed the situation by means of a questionnaire and after several conferences have the following recommendations to submit with reference to the three questions contained in the letter of instruction:

"The first question is: 'Should the institute engage for the petroleum industry in co-operation looking towards the elimination or minimization of corrosion losses in all branches of the industry?'

"The importance of the corrosion problems vary greatly in different localities but the replies already received from the questionnaires indicate the existence of a serious corrosion problem in many cases in the marine and pipe line transportation and in producing and refining departments, the annual maintenance and depreciation loss therefrom is apparently in excess of $100,000,000.

"The replies received to the questionnaire also indicate some companies have already made considerable progress in corrosion prevention while others have apparently given the matter comparatively little consideration. The problem is such a broad one that no one company can reasonably be expected to investigate and correlate all the information necessary to adequate progress towards a solution. Action by the A. P. I. seems very clearly to be an appropriate move, both from the standpoint of benefit to the industry and its individual members, and from the standpoint of national conservation.

Need Common Forum

"At the present time there is no common forum where corrosion problems common to a large part of the oil industry may be discussed. The great interest manifested in the symposiums held at Tulsa and New York during the past year indicate the need of an adequately organized means of co-operation. Furthermore, many outside of the oil industry are working on these problems and some official means of interchanging views with the technical men engaged in such work seems desirable.

"Your committee has no doubt that corrosion losses are at present excessive and that by the application of adequate means of prevention these losses can be largely reduced. Experience indicates that conservation is an economic problem and can be furthered to the best advantage by co-operative effort.

"Your committee therefore recommends that the institute undertake for the petroleum industry to engage in co-operative work with the object of eliminating or minimizing corrosion losses in all branches of the industry, and that they organize a general committee and region-

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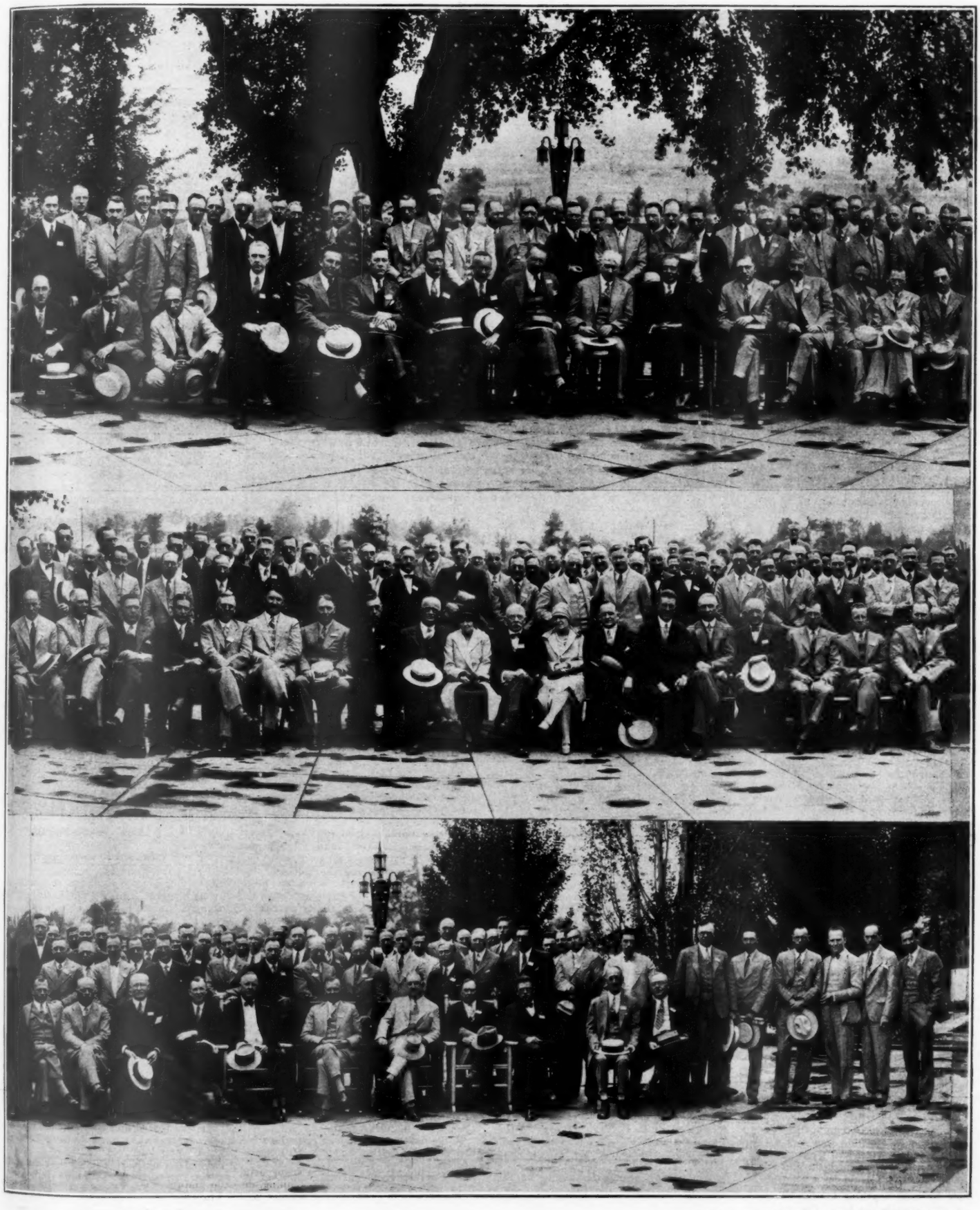
Those in Attendance at Third Semiannual Standardization Conference of A. P. I. at Colorado Springs, June 15, 16 and 17



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Standardization Committee Reports

Considerable Progress Made at Colorado Springs in Completing Specifications for Drilling and Producing Equipment

A summary of the reports made by the various committees of the American Petroleum Institute on standardization, at the close of the third semiannual conference at Colorado Springs, Colo., last week, follows:

Oil Field Belting

A. H. Riney, National Chairman
Paul Endacott, National Secretary

Outstanding evidence that A. P. I. belting specifications are not only practical but valuable to the oil industry has already been revealed by the fact that many manufacturers are designing their products in accordance with A. P. I. recommendations and several oil companies are purchasing belts only after testing them on the basis of conformity with A. P. I. requirements.

Perhaps the most notable example of the result obtained through co-operation of manufacturers with the new standards is that of the Rubber Association of America which has stamped its approval on the tentative A. P. I. standards and has set to work actually to turn out products consistent with these standards. The gratifying feature is that carefully prepared records are showing that belting constructed in accordance with the new standards is giving superior service under operating conditions in the field.

Other manufacturers are striving toward the goal set by the present tentative specifications and in several of these cases also valuable results are being indicated.

As has always been the case and as probably will always be the case, the belting committee finds that it must constantly adjust the tentative specifications to meet the demands of new findings and to incorporate into the specifications any new and valuable elements which may be discovered from time to time. Consequently the committee of engineers wishes to submit to the oil industry at this time a few revisions and additions to those specifications which already have been presented in the regular A. P. I. handbook.

Briefly, these specification revisions affect only slightly the present standard, except perhaps in the case of ply belts, such as rubber, stitched cotton fabric and balata, in which cases the previous basis of testing by pound per inch width has been changed to the basis of testing on pounds per inch per ply. Final specifications were adopted for rubber, balata, leather and stitched cotton fabric, but only tentative specifications for solid woven, hair and cotton.

Further investigation has been made along the lines of developing a suitable method of clamping belts. Particular emphasis has been placed on this subject because of the fact that all test data to this date substantiates the contention that the weakest part of all belts tested so far is at the clamp.

Realizing that in order to effectively compare the tests on a basis of A. P. I. standards, it will be necessary to specify very carefully the physical equipment to be used in making these tests, research work was carried on with a view of determining the nature of testing jaws to be adopted as standard. This is important in view of the fact that in testing belts the specification of the nature of the jaws of the testing machine in a very large degree determines the nature of the test results.

In continuation of the previous effort to determine some means of developing fatigue or endurance regulations for A. P. I. belting, a machine was constructed with his end in view and a considerable number of tests were made to find out if a suitable method could be developed for comparing belts on a basis of an accelerated operation test of this sort. It was found out, however, through this research that a machine of the type used was not satisfactory for breaking the belt itself down through fatigue, but that in all cases it was the belt fastener which showed lack of endurance rather than the belt itself.

During the past year special work has been initiated along the line of determining the elastic properties of belts, as it has been the contention of the belting committee for some time that it is not only the tensile strength and the elongation characteristics which determine the quality of the belt, but it is largely a matter of its elasticity. Robert Burnett has conducted research along this line and has discovered some very remarkable characteristics in regard to the elasticity of belting, but in as much as these tests have not been carried far enough at this date to justify final conclusion, it has been decided that Mr. Burnett's report be not made public at this time but that further research shall be carried out, with the hope that final recommendations may be available at the next general meeting.

In order that information of uniform nature may be collected in the oil industry relative to the actual operating characteristics of belting, a special form has been developed for the purpose of keeping belting records which it is intended shall be adopted by the oil companies as their standard form for preserving information for their own use and also for the use of the American Petroleum Institute in carrying on further work. It is desired that copies of these reports be forwarded to D. L. Trax, Gypsy Oil Co., Tulsa, Okla., who is chairman of the engineers subcommittee of the belting committee.

The belting committee wishes at this time to emphasize the following recommendations to the oil industry with regard to its attitude in applying these specifications and information developed by the A. P. I. belting committee.

In the first place, it has proven practical to buy belting on A. P. I. specifications and it is, therefore, recommended that oil companies' purchasing agents hereafter buy their belting only on the basis of A. P. I. standards.

It is further recommended that the purchaser test the belting purchased and attempt to check the results of tests which the manufacturers will supply. It would even be desirable that the purchaser retain a sample of belting from each roll of belting purchased so that tests could be made in the event material did not stand up in service as expected.

It is also desired by the belting committee that purchasers hereafter keep complete field or performance records, not only for the benefit of the purchaser in buying belts and for his own use, but also for the benefit of the A. P. I. in checking up on the results obtained.

As a final recommendation it is suggested that the purchaser take particular care to check by actual test any statements made by salesmen that his belt products are testing better even than A. P. I.

The following future work for the A. P. I. belting committee is planned at the present time:

1. To continue further tests on the properties of hair belting, with the idea in mind of determining characteristics of the elongation curve about which there is some question at the present time on the part of manufacturers.

2. To develop a standard procedure for the testing of belting under A. P. I. specifications.

3. Further research and collection of data with regard to the subject of belt clamps which has proven to be of vital importance, in view of the fact that tests show this to be the weakest portion of the belt.

4. To continue the study of fatigue and endurance on belting with the idea in mind of developing a test and a machine for this purpose.

5. To continue the study of elastic properties of belting, preliminary research on which indicates that this is a vital, as well as a very interesting, element in the quality of belts.

6. To develop a final belt record form to replace the present tentative form.

Oil Field Boilers

John R. Suman, Acting National Chairman

The first matter taken under advisement was the question of the location and size of the dome on oil field locomotive type boilers. The committee went on record that the location of the dome, as to whether it is over the fire box or over the barrel of the boiler, should be optional. If the dome is located over the barrel of the boiler it should conform to A. S. M. E. regulations, and the committee requests that the A. S. M. E. committee on code be urged to adopt the proposed amendment to the present code which will permit the installation of domes over the barrels up to 80 per cent of the diameter of the barrel or shell of the boiler, provided proper stayed construction is carried out.

The committee then took up the question of boiler stacks. After a thorough discussion of the matter it was recommended that the A. P. I. standard stack retain the same dimensions as at present listed, but that this stack be made in two sections of equal length, joined together in the middle by 2 by 2 by ¼-inch angle iron rings, riveted to the stack and drilled for six holes to accommodate one-half inch bolts, the top of the stack to also have similar construction, details to be prepared and forwarded to Mr. Broderick, who will take the matter up with the manufacturers committee, and it is our recommendation that if the manufacturers committee approves the drawings submitted that they be immediately adopted.

Owing to the fact that considerable confusion has arisen as to just which is the front and the back of an oil field boiler the following revisions of our present code were recommended:

That paragraph 4-B, page 4, of the boiler specifications which now reads as follows, "Front head above tubes is to be braced with diagonal stays," be revised to read as follows: "The area above the tubes of the smoke box tube sheet shall be stayed with diagonal stays."

Second Revision

That paragraph 4-C, which now reads "Rear furnace sheet above crown sheet to be braced with diagonal stays," be changed to read "The area above the crown sheet of the outside end sheet of the furnace end of the boiler should be braced with diagonal stays."

It was brought to the attention of the committee that the A. P. I. has standardized on a 3½ by 4½ hand hole plate, but the present hand hole plates made to these sizes placed on A. P. I. boilers are not interchangeable. It was moved and carried that the boiler committee request the manufacturers subcommittee to design a standard interchangeable 3½ by 4½ hand hole plate and that they submit this to the chairman of the A. P. I. boiler committee at the earliest possible moment, and when so submitted it is to be considered as adopted as A. P. I. standard.

It was moved and carried that we cancel paragraph A, page 2, table 2, of A. P. I. Standard No. 2, second edition, dated December, 1926, and that the main steam connections be made 3-inch for all boilers. The present tables call for 4-inch steam connection for 85-horse-

(Continued on Page 158)

Views on Standardization Conference

Views of leaders in the standardization movement, when asked what they considered the outstanding feature of the Colorado Springs conference, were expressed as follows:

E. W. Clark, president, the American Petroleum Institute—"What impressed me more than anything else was the earnest and sincere way members of the different committees did their work and the long hours spent in committee meetings. Members of the committees held sessions morning, afternoon and night and some discussions continued until long after midnight."

J. Edgar Pew, chairman of the committee of the Board of Directors of the American Petroleum Institute on standardization—"The big feature was the progress made and the completion and adoption of specifications on practically all oil field drilling and producing equipment."

Capt. J. F. Lucey, national chairman of committee on standardization of rotary drilling equipment and one of the leading workers in the standardization movement—"Research being developed as a result of standardization of equipment and the formation of a code of practice for oil field operation are most important factors. As A.P.I. standardized equipment is used, there is gradually developing a code of practice which is tending to eliminate the careless user of equipment and to bring into widespread operation approved methods in the care and use of equipment designed to give the best service. I have one criticism to make of this meeting. There were not enough field men present. If standardization is to be a success, the field men must take a more active interest."

W. R. Boyd, Jr., assistant general secretary and counsel, American Petroleum Institute—"What impressed me most was the report of the rapid gain in use of standardized equipment, especially in California."

Carl A. Young, director, division of standardization of the Institute—"For the first time in history all oil country tubular goods have been standardized. The adoption of specifications for line pipe at this meeting was of the utmost importance, completing the standards and specifications for all tubular goods."

1—J. Edgar Pew, Sun Oil Co.; W. W. Fondren, Humble Oil & Refining Co.; W. A. Trout, Emsco derrick and Equipment Co.; R. L. Dudley, Houston. 2—M. G. Brennen, Stearns-Roger Manufacturing Co. 3—W. R. Guiberson, Guiberson Corp. 4—Harry J. Leschen, A. Leschen & Sons Rope Co. 5—John R. Suman, Humble Oil & Refining Co. 6—C. A. Ellis, Standard Oil Co. of New York; R. A. Wilson, Guiberson Corp.; Z. F. Harshton, Imperial Belting Co..; W. S. Evans, Lucey Corp. 7—C. D. Watson, Carter Oil Co. 8—Frank N. Speller, National Tube Co. 9—Capt. J. F. Lucey with the grand trophy for golf tournament. 10—F. O. Prior, Midwest Refining Co., winner of golf driving contest. 11—C. E. Markley and C. R. Weiss, Link Belt Co.; E. H. Williams, National Supply Companies. 12—J. W. Ballew, United States Rubber Co.; John Baxter, Republic Iron & Steel Co.; Robert Burnett, Humble Oil & Refining Co.; C. E. Hathaway, Stanley Belting Co. 13—W. H. O'Connor, Marland Oil Co., winner of grand prize in golf tournament 14—W. M. Neckerman, Youngstown Sheet & Tube Co.; W. H. O'Connor, Marland Oil Co.; William Nicoll and A. W. Peake, Midwest Refining Co. 15—Ralph V. Hanrahan, president Humble Pipe Line Co., and Mrs. John R. Suman. 16—H. E. Koopman, vice president Phillips Petroleum Co. 17—Arch Campbell, Al Butts, Carl Hockenauer and Charles Krause. 18—W. W. Fondren, vice president Humble Oil & Refining Co. 19—H. W. Fletcher, Hughes Tool Co.; Capt. J. F. Lucey, Lucey Products Co.; D. B. Harris, Humble Oil & Refining Co.; F. Ray McGrew, president Standard Pipe Line Co. 20—W. M. Neckerman, Youngstown Sheet & Tube Co. 21—Charles Fitzgerald, Prairie Pipe Line Co. 22—S. C. Stannard, Ingersoll-Rand Co.; J. H. Morrison, National Tube Co.; M. G. Brennen, Stearns-Roger Mfg. Co.; T. D. Davies, National Tube Co.; D. S. Faulkner, Union Tool Co. 23—Glenver McConnell, Roxana Petroleum Corp.; M. W. Teats; H. G. Schleicher, Victor Balata Textile Belting Co.; F. R. House, Imperial Belting Co. 24—Carl A. Young, director standardization, A.P.I. 25—W. A. Trout, Emsco Derrick & Equipment Co.; H. G. Texter, Standard Seamless Tube Co.; Wendell M. Smith, Miley Oil Co.; E. E. Robbins, C. F. Camp Co.

Standard Replies to Universal Suit

Indiana Company Denies Infringement of Patents in Operation of Holmes-Manley Process and Makes Counter Claims

The Standard Oil Co. of Indiana recently filed its answer to the infringement suit brought against it by the Universal Oil Products Co., owners of the Dubbs process of cracking oils, in which suit the Indiana company is charged with the infringement of 12 patents issued to the Dubbs interests by the operation of Holmes-Manley cracking stills at its Whiting, Ind., refinery.

The 12 Universal patents which the Standard of Indiana is charged with infringing are as follows:

1. No. 1,123,502. Distillation and condensation under self-generated pressure, the following elements being used in the process: (1) pipe still, (2) enlarged expansion chamber, (3) dephlegmator and (4) a condenser. 2. No. 1,484,445. Controlled dephlegmation of the vapors. 3. No. 1,525,281. The return of the reflux condensate to the system for further treatment by forced (mechanical) means (pump). 4. No. 1,550,607. Split-feed of the charging stock or of any other oil (latter according to Claim 3) while at the same time having a pump on the reflux line. 5. No. 1,392,629. The return of the reflux condensate to the system for further treatment. 6. No. 1,488,325. Bubbling the vapors through oil pools in the dephlegmator with heat interchange with the charging stock. 7. No. 1,517,830. A coke-like carbonaceous fuel produced by cracking. 8. No. 1,568,400. The return of the reflux condensate to the system for further treatment either by pump or by gravity or, if desired, by both. 9. No. 1,440,772. The passing of the heated oil through a series of heated vaporizing chambers. 10. No. 1,522,425. The split-feed of the charging stock, part overhead, part direct to the heating elements. 11. No. 1,546,634. An apparatus patent involving 12 elements, and covering particularly the overhead feed of oils. 12. No. 1,550,568. The passing of a stream of oil to the dephlegmator to pass therethrough in direct heat conductive relation with the vapors traveling through said dephlegmator without permitting physical intermingling of such stream of oil with said vapors to assist in condensing the insufficiently cracked vapors.

The Standard Oil Co. of Indiana in its answer makes general denial of all charges made by Universal in its Bill of Complaint, the former depending upon prior art, for the most part, as the reason for same.

Patent No. 1,123,502

It is stated by Standard that the alleged invention of Jesse A. Dubbs (this refers to Patent No. 1,123,502, covering distillation and condensation under self-imposed generated pressure) "was known, invented, practiced, used, described, disclosed, published or patented by various other persons or patentees, and set forth in various patents of the United States and foreign countries, as follows:

Group 1 (contains patents cited by the examiner in the prosecution of the application on which the said alleged letters patent No. 1,123,502 was granted). Letters patent of the United States to: Potter, No. 43,429, July 5, 1864; P. H. Vander Weyde, No. 62,096, February 12, 1867; J. J. Johnston, No. 117,425, July 25, 1871; E. Lane, No. 172,131, January 11, 1876; C. G. Frash, No. 285,607, September 25, 1883; E. Kells, No. 298,210, May 6, 1884; H. C. Smith, No. 300,811, June 24, 1884; J. S. Klein, No. 306,837, October 21, 1884; Dewar & Redwood, No. 419,931, January 21, 1890; A. C. Calkins, No. 779,398, January 3, 1905. Letters patent of Great Britain: No. 5971, of 1890, to James Dewar. French letters patent: No. 402,917, of October 20, 1909, to Societe de Gaz de Paris.

Group 2 (contains patents dealing with the distillation and condensation of various substances, other than petroleum oil, under pressure). Letters patent of the United States: F. V. De Coppet, No. 309,442, December 16, 1884; P. J. MacDonald, No. 429,198, June 3, 1890; F. B. Hill, No. 464,434, December 1, 1891; F. W. Hoos and E. Mann, No. 469,999, March 1, 1892; Dickerson & Suckert, No. 535,944, March 19, 1895 C. A. Kunzel, Jr., No. 553,681, January 28, 1896; R. H. Thorpe, No. 568,550, September 29, 1896; R. J. Cracknell, No. 572,696, December 8, 1896; W. Burns, No. 674,034, May 14, 1901.

Group 3 (contains patents dealing mainly with the distillation of petroleum oil under pressure). Letters patent of the United States: G. L. Benton, No. 342,565, May 25, 1886; G. L. Benton, No. 342,564, May 25, 1886; F. W. Mann, No. 619,593, February 14, 1899; A. Nikiforoff, No. 755,309, March 22, 1904. Letters patent of Great Britain: No. 3,345, of 1865, to James Young; No. 2,960, of 1871, to A. M. Clarke; No. 3,326, of 1886, to A. M. Clarke; No. 50, of 1870, to George Shand; No. 26,910, of 1907, to T. and G. Wilson German letters patent: No. 37,728, December 17, 1886, to A. Riebeck'sche Montanwerke

Group 4 (contains patents dealing mainly with the condensation of petroleum oil vapors under pressure). Letters patent of the United States to: Rogers, No. 120,539, October 30, 1871; H. M. Peirce, No. 184,898, November 28, 1876; F. W. Clark, No. 547,332, October 1, 1895; C. Heinzerling, No. 575,714, January 26, 1897; H. Blau, No. 862,383, August 6, 1907; L. Wolf, No. 909,125, January 5, 1909.

Group 5 (contains patents dealing mainly with the distillation and condensation of petroleum oils under pressure). Letters patent of the United States to: W. P. McConnell, No. 39,350, July 28, 1863; C. Carpenter, No. 81,136, August 18, 1868; D. Davison, No. 99,860, February 15, 1870; W. H. Burr, No. 152,598, June 30, 1874; T. Marrin, No. 243,930, July 5, 1881; J. M. Goldsmith, No. 261,546, July 25, 1882; W. F. Browne, No. 263,308, August 29, 1882; W. F. Browne, No. 263,309, August 29, 1882; W. F. Browne, No. 263,310, August 29, 1882; W. F. Browne, No. 263,316, August 29, 1882; A. Henning, No. 416,609, December 3, 1889; Dewar & Redwood, No. 426,173, April 22, 1890; John Laing, No. 471,291, November 22, 1892; John Laing, No. 488,767, December 27, 1892; A. Stoemer, No. 525,969, September 11, 1894; J. J. Johnson, No. 862,214, July 17, 1906; J. J. Suckert, No. 534,295, February 19, 1895; G. M. Eckles, No. 994,135, June 6, 1911; W. F. Browne, No. 257,550, May 9, 1882; W. F. Browne, No. 263,307, August 29, 1882; W. F. Browne, No. 263,311, August 29, 1882; W. F. Browne, No. 263,313, August 29, 1882; W. F. Browne, No. 263,315, August 29, 1882; W. F. Browne, No. 328,834, October 20, 1885; Vieulleumeir, No. 1,038,691, September 17, 1919; Vieulleumeir, No. 1,053,074, February 11, 1913. Letters patent of Great Britain: No. 660, of 1857, to Danre, Moulard and Mercier; No. 10,277, of 1889, to Dewar & Redwood; No. 4,120, of 1890, to John Laing; No. 11,079, of 1890, to John Laing; No. 11,757, of 1890, to John Laing; No. 6,134, of 1891, to John Laing; No. 35, of 1893, to John Laing; No. 4,053, of 1894, to John Laing; No. 5,306, of 1825, to Edmund Luscombe; No. 36, of 1861, to Williams; No. 1,666, of 1861, to William Clark; No. 3,153, of 1882, to W. F. Browne; No. 3,154, of 1882, to W. F. Browne; No. 176, of 1868, to Edward Dorsett; No. 16,927, of 1888, to R. R. Hutchinson; No. 2,242,. of 1890, to Faustin Heawaty Letters patent of France: Nos. 25,967, 29,970, 29,971, 30,163, 30,263, all of 1856, to Danre, Moulard & Mercier, No. 4,418, of 1837, to Ajasson & de Bassano.

Further Claims

The answer further states that the knowledge and claims set forth in Jesse A. Dubbs' application were invented and became known, prior to the alleged invention of Dubbs, to the following-named persons:

James S. Lang, Boston, Mass; Joseph H. Adams, Brooklyn, N. Y.; Joshua S. Cosden, Bigheart, Okla.; Charles W. Turner, Brooklyn, N. Y.; Louis B. Castets, Lalugne, Landes, France; August Testelin, Laeken, Belgium; Georges Renard, Ixelles, Belgium.

The following patents are said to predate the Dubbs patent: Group 1—J. S. Cosden, No. 981,176, dated January 10, 1911. Group 4—H. Blau, No. 994,309, dated June 6, 1911; L. B. Castets, No. 1,052,214, dated February 4, 1913; Testelin and Renard, No. 1,138,260, dated May 4, 1915. Group 5—J. S. Lang, No. 954,575, dated April 12, 1910; G. M. Eckels, No. 994,135, dated June 6, 1911; C. W. Turner, No. 1,046,683, dated December 10, 1912.

Because of the prior art the answer further goes on to state that "said patent No. 1,123,502, if valid at all, must be strictly construed and limited to the removal of water from emulsion oils by distillation thereof under heat and autogenous pressure of the evolved vapors and gases during distillation and while undergoing condensation."

In addition to the patents a large number of publications are cited as having described the invention previous to the Dubbs patent.

The answer further avers that the Jesse A. Dubbs patent No. 1,123,502 was

(Continued on Page 72)

DUBBS-HOLMES MANLEY SUIT

In this article the main features of the Standard Oil Co. of Indiana answer to the suit of the Universal Oil Products Co. are given. The Universal's suit was based on alleged infringements of its patents in the operation of the Holmes-Manley cracking process at the Whiting, Ind., and Wood River, Ill., refineries of the Standard company. The Holmes-Manley process is controlled by The Texas Company.

In its petition the plaintiff company alleged that the Holmes-Manley process infringed on several patents which it owns and which are a part of the Dubbs cracking process. The defendant company in its answer relies largely on the claim of prior art to the plaintiff's contentions. Several counterclaims also are made.

The Universal Oil Products Co. and the Standard Oil Co. of Indiana were plaintiff and defendant in the first cracking process suit of any general importance. Testimony in this case is not yet completed although the suit was filed in 1913. The original suit involved the Burton cracking process in operation at the Standard's refineries. The Holmes-Manley cracking units which the Indiana Company has installed during the past two years and upon which the new suit is based have replaced some of the Burton units.

PLANS FOR PETROLEUM EXPOSITION GOING FORWARD ON CHANGED POLICY

Features of the preparations for the International Petroleum Exposition to be held at Tulsa September 24 to October 1, announced by General Manager J. Burr Gibbons, include: Unanimous decision by its directors to hold the exposition and underwriting of any possible deficit; establishment of a general office at 108 East Third Street; construction of three large buildings on the new 20-acre site; elimination of amusement features, spectacles and social events from the exposition program; city rushing work to complete three paved thoroughfares; three railroads building and perfecting lines for freight service to the grounds; setting aside of free parking space for exhibitors; extension of city utility services; arrangement for fire and police protection; endorsement of the central idea of the exposition by President E. W. Clark of the American Petroleum Institute; rapid placing of exhibit spaces.

More Exhibit Space

Construction work, Mr. Gibbons states, has been started on three buildings, which are to be in U-shape. There will be a large court for general displays, bandstand, seating, etc. Outside the buildings proper there will be a large additional space for heavy displays.

There are about 3,440 linear feet of display space frontage, inside the buildings, an exposition official said, and an equal amount of space for outside displays. Two buildings are 380 feet long, each, and there is a connecting structure. There are four rows of display spaces in each of the main buildings. The apportionment of this space is reported to be well advanced and the list of exhibitors covers 15 states.

The Oklahoma Union Railway, the Katy and the Frisco are described as actively preparing for freight handling at the expositon, the bus and city car lines being also organized for exposition purposes. The paving of Fifteenth Street direct to the grounds will, it is announced, give another complete thoroughfare from the city.

The site is within the city limits and consists of 20 acres secured from the State Fair Association. At one side the free parking space will be laid out for exhibitors, official visitors, exposition forces and the press. The general public parking will be across the exposition grounds from the reserved space. The whole tract, it is stated, will be protected by a city police and fire force. The city services are at the grounds.

The directors, when they decided that the exposition should be held, agreed, Manager Gibbons states, to omit the spectacular and social features. This was intended as a benefit to the exhibitors, pre-

(Continued on Page 145)

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THIS YEAR'S EXPOSITION

President W. G. Skelly and the Board of Directors of the International Petroleum Exposition are to be complimented upon prompt correction of what was for a time an unpleasant and difficult situation plainly set out in The Oil and Gas Journal editorial May 12.

Now that it has been determined to have a real Petroleum Exposition of a character and scope in keeping with the importance of the oil industry and leaders in the oil and equipment industries have taken hold of the preparations resolved to make up in intensity of effort for delay in the preliminary work the outlook has been completely changed.

The leading citizens of Tulsa, bankers and business men, impressed with the importance of the International Petroleum Exposition to Tulsa as the oil capital of the world, are making unprecedented efforts to make it a success by the fullest co-operation.

The unfavorable impression created at the outset lest the Petroleum Exposition might be secondary to a state or county fair has been removed by the understanding that the Petroleum Exposition will stand out by itself as a distinct exhibition of oil industry achievement. The local fairs will be merely a coincidence. The International Petroleum Exposition is to be a whole show in itself, as it ought to be.

On this general understanding The Oil and Gas Journal has the assurance of President Skelly and the Board of Directors and leading citizens of Tulsa and feels that the Exposition under these auspices is to be worthy of the confidence of the industry.

In fact, it can now be said that, thanks to the clearing of the air of misconceptions and the much more than usual interest enlisted, the International Petroleum Exposition of 1927 is promised a broader and more active support than any ever held.

The interest of The Oil and Gas Journal in the matter has been purely that of its clients, the oil industry and the equipment industry which must provide the exhibits and bear the expense of the Exposition. If there was a doubt of the character of the Exposition or of its success as an exhibition place for oil equipment it would be the duty of The Oil and Gas Journal to say so.

The criticism published on May 12 was based on conditions as they then seemed to be shaping. That criticism, in itself, was timely and proved to be just what was needed. It aroused those really interested in a Petroleum Exposition to the necessity of immediate action and has resulted in a vigorous and determined movement to avoid the pitfalls warned against. The danger of the effect of disappointment on any future Exposition was clearly seen.

The Oil and Gas Journal has consistently championed and supported the holding of an International Petroleum Exposition in Tulsa when conditions justified it and when the success of the exposition was guaranteed by the co-operation of the equipment industry and the oil companies.

The value of such an exhibition of oil country equipment to the exhibitors and to the users has been demonstrated by experience. What it has meant to Tulsa has perhaps not been as fully appreciated as it is now. It is too big a thing to be endangered by being localized. It must be kept on an international plane, the world's only exposition of the petroleum industry's progress in all fields, logically and centrally located at the world's oil capital.

It is good to find this spirit and purpose dominating those who are directing the preparations for the exhibition of next September. It may have been said that conditions in the industry were not favorable but Mr. Skelly points out that these conditions by demanding greater economy and efficiency in operations make an exhibition of the most efficient equipment the more timely.

The A.P.I. conference on standardization just concluded at Colorado Springs records another long step forward in this movement for greater mechanical efficiency, which will be the main object of the coming Exposition.

It has been two years since an Exposition was held and in that period there have been many revolutionary advances in the industry. The Exposition next fall will offer opportunity for contact with the very newest details.

President Skelly, in his letter to The Oil and Gas Journal last week, announced that the Skelly Oil Company was scheduling its field men and other employes for attendance at the Exposition and arrangements were being made to have other producing and refining companies do likewise. In this way the attendance of those most likely to be benefited will be assured.

At the same time the public should not be forgotten. The industry is greatly concerned about the education of the general public regarding the problems of the oil industry as a factor in good will and just treatment.

Within recent weeks there have been printed in The Oil and Gas Journal articles explaining in the simplest terms some of the perplexities of the oil business which the public should know, more particularly in explanation of price fluctuations which so often irritate and inflame public opinion against the industry.

It seems that some of the factors in this problem might be very convincingly demonstrated in an exhibit, under the auspices say of the American Petroleum Institute, showing in a few simple comparative forms the relative cost of crude and gasoline taxes and other elements entering into the price at the filling stations.

If there is waste in marketing through the multiplication of unnecessary outlets and the public is paying more on that account the responsibility should be lifted from the producing and refining branches and placed where it belongs, before the public.

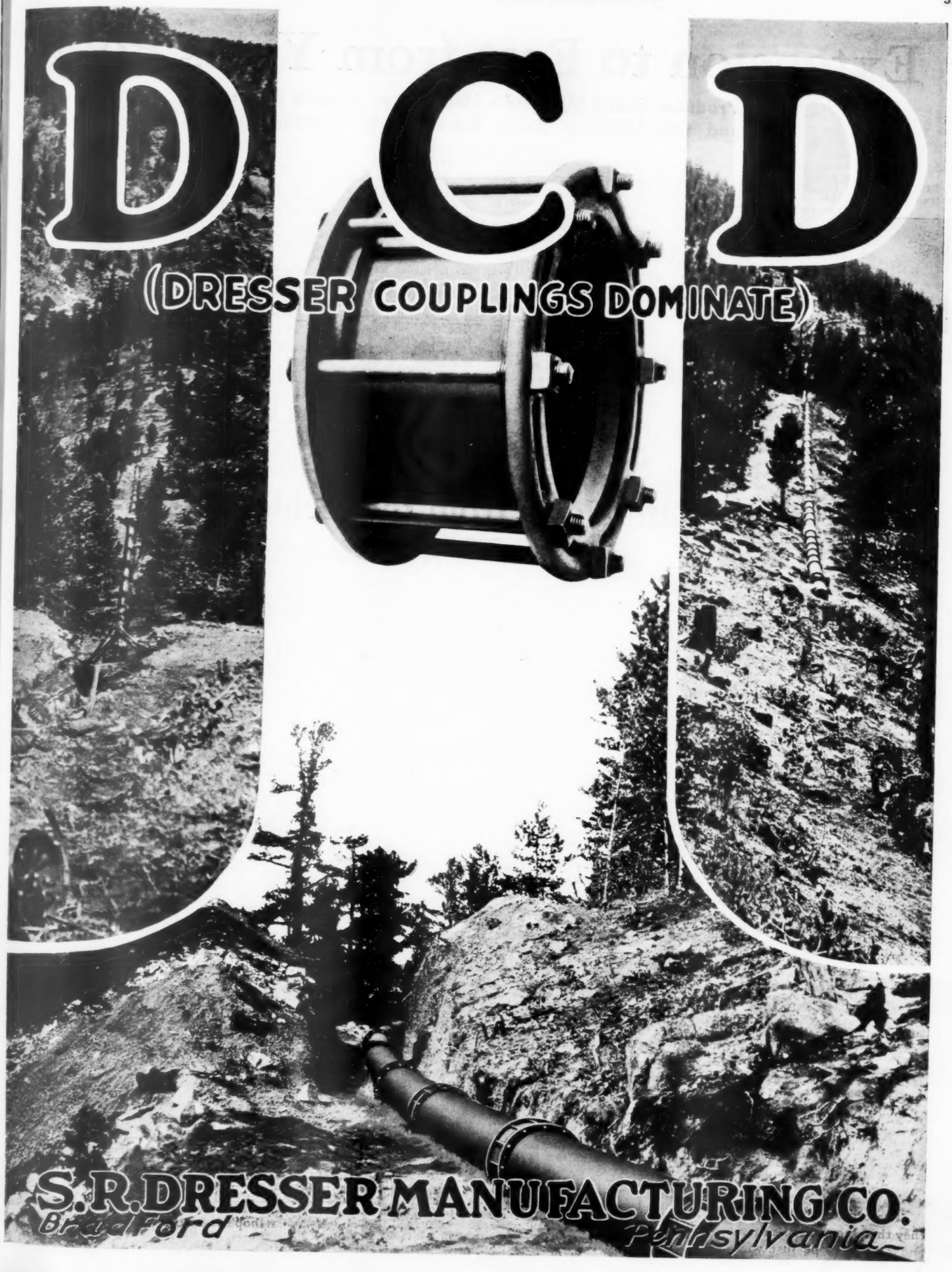
The complications of offsets and proposed unit operation which are so much Greek to the average citizen, might very easily be made plain by actual demonstration to the passerby at such an exposition and lead to straighter thinking by the public at large.

Not the least interesting might be a demonstration of the principle of the gas lift so largely figuring in the present overproduction.

Popular curiosity properly aroused could be interested in such a display and make the Petroleum Exposition a really valuable agency for public enlightenment about our industry. The idea is worthy of the immediate attention of the American Petroleum Institute.

Undertaken with such an inspiration for the education of those within and without the industry and carried out on a system and scale commensurate with the importance of the industry, the Fourth International Petroleum Exposition ought to be the best ever held.

The realization of that hope is in the hands of those in charge of it.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Extension to East from Yates Pool

Producer Found Mile and a Half Away. Church Fields and Gulf-McElroy Areas Report Good Completions

By C. D. Lockwood
Staff Correspondent, North and West Texas

FORT WORTH, Tex., June 20. — An extension of nearly 1½ miles eastward from the Yates Pool in Pecos County, and the addition of several excellent producers along the strip between the Church-Fields and Gulf-McElroy Pools in Crane County were the chief points of interest in West Texas during the past week. Eight new wildcats were started and production of the western district dropped 2,059 bbls. to 109,950 bbls. daily.

In the North Central Texas areas, Foulcher and others' No. 1 Leslie, 1½ miles south and one-half mile east of Thrifty, in Brown County, attracted considerable attention when it flowed 10 bbls. an hour from pay topped at 1,299 feet and drilled to 1,305 feet. It is located in the NE cor. S half SE Section 36, William Rentis Survey, and opens a new pool about 3½ miles from the nearest production in the Greater Fry or Thrifty area. There is a 1,515-foot dry hole in the SE cor. NW of the same section and another duster 2,275 feet deep about one-half mile northeast of the discovery, but dry holes in that part of the country mean little. The pay in this new well, while corresponding in depth to the prolific pay horizon in the Fry Pool, is about 200 feet below the Fry pay structurally, due to the regional dip in that vicinity which is about 60 feet to the mile. About 3,000,000 feet of gas accompanied the oil.

Yates Pool Extension

The Yates Pool extension referred to is Allsman & Bell's No. 1 Pecos River Bed, just east of the NE cor. of Section 60, Block 1. It topped the pay at 970 feet and was drilled to 1,043 feet where it has a hole full of oil and makes a head when the bailer is run. The remarkable feature of this well is that it has not encountered salt water yet, although the top of the pay is 227 feet lower than the pay in the Yates discovery well. This well also proves that the pay horizon conforms structurally to the surface rocks because the surface structure as mapped before the discovery well was drilled showed that this location had a chance to produce. This was also shown on a map in The Oil and Gas Journal for June 2.

The P. H. Williams well in Crockett County, which extended the World Pool a mile to the south, seems to be the best well in the county by long odds. From June 6 to 11, inclusive, it flowed an average of 250 bbls. daily. Then on June 12 it swabbed 580 bbls. and the following day swabbed 410 bbls. No offsets have been announced yet but the Gulf Production Co. and the Humble-Marland will have to drill around it.

Another interesting wildcat has been started in Winkler County. It is the Gulf Production Co.'s No. 1 O'Brien, SW cor. Section 28, Block F, Gunter, Munson, Maddox & Anderson Survey, near the south line of the county. Material was being moved in Monday.

Winkler County Wells

The Gulf Production Co. has five wells drilling in the Hendricks Pool of Winkler County and is contemplating extension of its pipe line which was completed June 16 from Ranger to Midland, breaking all known records for construction time over such a distance. The 205 miles of 10-inch pipe were laid between April 26 and June 16. The Gulf already had an 8-inch line from Midland to the McElroy Pool and Church-Fields Pool in Crane County and had a tank farm at Midland containing four 55,000-bbl. tanks. Six 80,000-bbl. tanks have since been added to this farm and if the Winkler County wells turn out to be as good as expected the pipe line will have to be extended to Wickett or Wink.

Gulf's No. 3 was underreaming 12-inch at 630 feet Monday; No. 4 was drilling up shoe at 1,785 feet; No. 5, underreaming 10-inch at 1,465 feet; No. 6, drilling at 1,570 feet; and No. 7 at 1,055 feet. The status of other wells in this pool can be found on the wildcat report.

The little town of Winkler, in the Hendricks Field, is to have long distance telephone service in a few days, which will mean much to companies operating in the area. The Southwestern Bell Telephone Co. is stringing a line and will soon have it completed.

Crane County Operations

Gulf Production Co. has made locations for Nos. 23 and 24 on the second row south of the Landreth strip in Crane County and has rigs building on both of them. No. 23 is 771 feet south and 1,980 feet east of NW cor. Section 200 and No. 24 is 660 feet of No. 23. These wells on the second row are staggered in relation to the first row, being half-way between each two wells on the row in an east-west direction.

Gulf's No. 15 J. T. McElroy topped pay at 2,750 feet and started flowing steadily at 2,793 feet, making 125 bbls. the first hour and 75 bbls. the second hour. At 2,810 feet it flowed 1,320 bbls. No. 14 topped the gray lime at 2,715 feet and the pay at 2,794 feet. At 2,885 feet it flowed and swabbed 540 bbls. Sunday. Gravity of oil from both of these wells tests 31.5 degrees.

Landreth's No. 1 and 3 Cowden-Anderson flowed 879 bbls. Sunday and No. 2 flowed 2,465 bbls. at 2,810-2,910 feet. No. 3 was also a good well, flowing 175 bbls. the first hour and 112 bbls. the second hour after a 240-quart shot at 2,795-2,926 feet. No. 5 flowed 310 bbls. while drilling at 2,825 feet in pay topped at 2,750 feet. His No. 6 is about due in, also. It is below 2,560 feet. Cromwell & Pickrell's No. 5 University flowed 80 bbls. the first hour after a second shot but made only 757 bbls. the first 24 hours June 16 and flowed 712 bbls. Sunday. They had a good well in their No. 6, however, which flowed 1,069 bbls. at 2,760-2,910 feet Sunday without shooting.

Simms & Atlantic also made a good well out of their No. 2 University-D by shooting it. The result of 150 quarts placed at 2,860-2,930 feet was a 500-bbl. flow.

Upton County Development

In Upton County, Gulf Production Co. is building rig for No. 3 Lane, NW cor. of the Gulf lease in Section 3, G. C. & S. F. Survey. No. 2 topped the salt at 495 feet and was drilling at 960 feet. Same company's No. 1 Hughes-B, offsetting the Snowden & McSweeney well, had a small show of gas at 2,270-73 feet, 2 bailers of sulphur water per hour at 2,278-81 feet and 5 bailers at 2,281-87 feet. It was drilling in gray lime at 2,285 feet.

Counting these three wells in Upton County, Nos. 12 to 24 on the J. T. McElroy lease in Crane County, three on the State-Lasseter lease, one on the Waddell in the same county, and six in Winkler County, the Gulf Production Co. has 26 strings of tools at work in the Upton to Winkler district.

The Tidal Oil Co.'s test in Reagan County, about 7 miles southwest of the town of Big Lake, is nearing the critical stage. It had some pure lime, at 2,965 feet, and then got a little more anhydrite at 3,025 feet, but was reported drilling in lime again at 3,040 feet.

In Upton County, Beatty and others' No. 1 J. F. Lane, north of the Wentz Pool, is plugging to abandon at 3,550 feet.

Late News from the Fields

OKLAHOMA

The production of the Seminole Field for the 24 hours ending Tuesday morning, June 21, was 383,337 bbls. from 537 wells, a drop of 9,656 bbls. from the production of the previous day and 11,967 bbls. below the peak figure of Saturday. Bowlegs made 156,718 bbls.; Earlsboro 81,373 bbls. Seminole City 107,462 bbls. and Searight 37,784 bbls.

The Magnolia Petroleum Co.'s No. 4 Simpson, SE cor. SW SE Section 10-9-5, Earlsboro, was flowing 4,203 bbls. from Wilcox sand at 4,340 feet, drilled in 5 feet. Pure Oil Co.'s No. 11 Reid, SW SE Section 14-8-6, got Wilcox sand at 4,245 feet, total depth 4,274 feet. It swabbed 372 bbls. and was being tubed. The same company's No. 9 Reid, NE NW Section 14-8-6, got Wilcox sand at 4,134 feet, total depth 4,153 feet. It swabbed 63 bbls. and was being tubed. Magnolia Petroleum Co.'s No. 3 Lena, SW SE Section 10-9-5, an old Earlsboro sand well, was drilled to the Wilcox sand at 4,296 feet and at 4 feet in was flowing 3,120 bbls. Empire Gas & Fuel Co.'s No. 5 Lacey, SE SW SW Section 14-8-6, got Wilcox sand at 4,435 feet and was drilling at 4,449 feet. It swabbed 96 bbls. It will be shot. Indian Territory Illuminating Oil Co.'s No. 1 Work, NW SW Section 24-8-6, got Wilcox sand at 4,506 feet. It swabbed 742 bbls. at 3 feet in the sand. Same company's No. 2 Billington, Section 22-8-6, found Wilcox sand at 4,334 feet, total depth 4,351 feet. It was shot with 20 quarts and swabbed 489 bbls. in 24 hours.

The Riverland Oil Co.'s No. 1 Holmes, NE cor. NW NW Section 30-11-11, Okfuskee County, reached Viola lime at 3,547 feet and drilled to 3,610 feet. It flowed 720 bbls. the first day and 623 bbls. the third day. The company has 300 acres around the well.

EAST TEXAS

The Humble Oil & Refining Co. is still working on its No. 1 Elliott and Clark in the Bogey Creek district in Cherokee County, which came in March 23 last, with initial flow of 10,000 bbls., but was choked in. The well flows oil at times and then turns to salt water. The Humble company's No. 1 Jarvis, 11 miles east of Palestine, is flowing salt water at 4,500 feet. The test is a great disappointment to the talent.

Cosden's No. 1 Douglass, on the Keechie Dome, 7 miles northwest of Palestine, is drilling around 1,245 feet. The Magnolia Petroleum Co.'s No. 1 Summers, Cherokee County, is shut down at 4,330 feet. This test cored a sand showing oil, but trouble arose concerning some leases in the block.

Operators on the east edge of the Mexia Field are plugging and abandoning small pumpers, because they do not pay at the present price for crude. The same is true of the Wortham Field, where wells are also being abandoned. The present drilling is confined to offset wells.

Byrd and others' No. 1 Garrett, about a mile east of Currie, Navarro County, has a nice showing of oil in a stray sand at 3,219-24 feet and will test the sand.

CALIFORNIA

LOS ANGELES, Calif., June 21.— Associated Oil Co.'s No. 17 Bryant, in the old section of Seal Beach Field, got away blowing out mud, sand and water for about 12 hours. The well was standing cemented and gas blew out between the 11-inch and 8-inch water string cemented above the oil zone. The rig was destroyed and while it looks like the well is seriously damaged the extent is not yet determined. The gas blowoff was about 10,000,000 feet daily.

GULF COAST

HOUSTON, Tex., June 21. — In the deep sand section on the southwest side at Spindletop, the Yount Lee Oil Co.'s No. 9 McFaddin, a workover, is flowing 1,600 bbls. at 3,200 feet. No. 29 McFaddin is flowing 1,500 bbls. at 5,200 feet. The daily average production has increased to more than 60,300 bbls.

On the east side of the Barber Hill Dome, the Humphreys Corp. worked over No. 3-B Kirby and it is making 200 bbls. per day.

Two nice wells were developed in the shallow Brenham district in Washington County. Lyne Oil Co.'s Nos. 3 and 4 Hess are pumping 25 bbls. each at 260 feet. Smith's No. 1 Pomical is making 1,500,000 feet of gas at 175 feet.

The Gulf Refining Co.'s No. 1 United Land Co., near Sorrento, Ascension Parish, Louisiana, staged a gas blowout at 1,600 feet. The blowout made a crater 75 feet in diameter, which swallowed the drilling rig and the 112-foot derrick.

NORTH CENTRAL TEXAS

Estimated Production for Week Ending June 18, 1927

Ranger District—	June 11	June 18
Brown County	24,420	23,620
Callahan County	4,365	4,350
Coleman County	1,175	1,180
Comanche County	1,575	1,580
Palo Pinto County	400	445
Ranger	9,550	10,140
Shackelford County	7,625	7,575
Stephens County	10,045	9,970
Total Ranger district	59,155	59,160
Wichita Falls District—		
Archer County	28,200	27,860
Baylor County	95	95
Clay County	705	715
Cooke County	3,695	3,950
Jack County	640	635
Montague County	12,440	12,395
Throckmorton County	2,110	2,040
Wichita County	31,990	31,350
Wilbarger County	13,000	13,250
Young County	12,405	11,740
Total Wichita Falls district	105,280	104,030
Total North Central Texas	164,435	163,190
West Texas District—		
Big Lake Field	25,600	25,132
Crane County	48,030	48,500
Crockett County	1,216	1,189
Ector County	18	16
Garza County	1	4
Glasscock County	36	20
Howard County	3,306	3,190
Jones County	1,765	1,847
Loving County	25	25
Mitchell County	3,656	3,554
Pecos County	6,895	5,160
Scurry County	19	23
Upton County	20,252	19,832
Winkler County	1,190	1,441
Total West Texas district	112,009	109,950
Grand total N. and W. Tex.	276,444	273,140
Decrease		3,304

Deep West Texas Wells

Two West Texas wells are getting mighty deep for that country. One is Skelly Oil Co.'s No. 1 Leeman in Winkler County which is below 4,690 feet with no showing worth mentioning. The other is Marland Oil Co.'s No. 3 Burleson in the McCamey Pool of Upton County, which was down 4,550 feet last Saturday.

Marland Oil Co.'s No. 1 Guitar estate in Howard County about 5 miles west of Big Spring was drilling at 3,600 feet with 2,500 feet of water in the hole, thus

dampening the enthusiasm created a couple of weeks ago when it had a showing of oil at 3,137 feet.

In Pecos County, California Co.'s No. 1 Union Land was another disappointment, getting water at 2,178 feet.

In Cooke County, north of Fort Worth, the Muenster Townsite Pool looks better than ever as a result of E. J. Ruwaldt's No. 1 Koelzer on his 1.13-acre piece 1,360 feet north of the main pool and just south of the Katy tracks. This well was shot with 15 quarts last week from 1,654-79 feet and swabbed 20 bbls. an hour afterward. Before the shot it had dropped to 7 bbls. hourly.

The Magnolia Petroleum Co. topped a sand in its Stacy well, 3,600 feet north of its gasser, bearing about 10 bbls. of heavy, black 20-gravity oil. This is about 4 miles due north of Muenster. The sand was found at 1,267 feet and drilled 2 feet. Magnolia also completed a derrick on the Andress farm, a west offset to its own No. 1 Alice Johnson which was completed in February for 3,000,000 feet of gas. The Gainesville Oil & Development Co. has been organized in that town and is drilling a well on a 4.5 acre tract at Muenster just southeast of production. This company has 250 stockholders and paid up capital of $2,500. Each stockholder is to contribute $10 monthly.

NORTH CENTRAL TEXAS COMPLETIONS

Wichita Falls District

Archer County

Atlantic Oil Producing Co. & Rayzor's No. 1 Wilson was dry and abandoned at 1,501 feet. Atlantic Oil Producing Co. & Rose's No. 1 Wilson was also a duster at 1,507 feet. Kruger & Staley's No. 3 Turbeville had oil sand 1,471-78 feet, broken sand at 1,478-90½ feet and water sand 1,490½-92 feet. It pumped 160 bbls. initial. Petroleum Producers Co.'s No. 8 Turbeville-C was a 70-bbl. completion at 1,465-83 feet, total depth 1,484 feet.

Royal Petroleum Co.'s No. 7 Wilson swabbed 200 bbls. and pumped 125 bbls. at 1,525-37 feet, total depth 1,540 feet; No. 8 swabbed 210 bbls. and pumped 150 bbls. from sand at 1,526-41½ feet. The Texas Company's No. 1 Wyatt and others was dry and plugged at 1,300 feet.

Clay County

McClure and others' No. 1 Barry, Jr. pumped 15 bbls. from sand at 775-84 feet.

Cooke County

McElreath & Suggett's No. 1 Potter was abandoned as dry at 2,507 feet. Roxana Petroleum Corp.'s No. 1 Walterscheid was officially completed for 180 bbls. in broken sand at 1,670-98 feet. E. J. Ruwaldt's No. 1 Koelzer was shot with 15 quarts from 1,654-79 feet and swabbed 20 bbls. an hour afterward. Sowell Bros.' No. 1 Mitchell was plugged and abandoned at 2,392 feet.

Denton County

Jones & Eubank's No. 1 Waide was dry and abandoned at 1,913 feet.

Montague County

Continental Oil Co.'s No. 2 Crowe et al. made 15 bbls. at 807-24 feet, total depth 825 feet; No. 22 Maddox-A was good for 58 bbls., with no water, from sands at 906-19 and 921-26 feet. The Texas Company's No. 6 Gist-B pumped 72 bbls. at 839-50 feet. Dickey and associates' No. 1 Williams was abandoned as dry at 1,783 feet (corrected depth).

Wilbarger County

Atlantic Oil Producing Co.'s No. 1 Fluhman-A pumped 52 bbls. of oil and 10 bbls. of water at 1,465-87 feet. F. A. Beatty's No. 1 Waggoner, an old well completed at 2,720 feet in December of 1925 for 20 bbls., was plugged and abandoned; No. 2, also an old 40-bbl. completion of August, 1926, was plugged and abandoned at 1,974 feet.

Consolidated Oil Co. & J. S. Cosden's No. 5 Waggoner, in Section 57, flowed 125 bbls. at 1,222-35 feet. Humble Oil & Refining Co.'s No. 6 Waggoner-H pumped 40 bbls. from saturated lime at 2,585-2,612 feet; No. 12 Waggoner-H swabbed 150 bbls. from lime at 2,574-2,604 feet.

Milham Corp.'s No. 10 Waggoner-B pumped 90 bbls. the first 18 hours from lime at 2,102-10 feet. Phillips Petroleum Co.'s No. 3 Waggoner-OO was dry and abandoned. Pratt and others' No. 1 Waggoner, a 200-bbl. completion in November of 1925, was plugged and abandoned. Waggoner Refining Co.'s No. 2 Waggoner-A had sands at 1,886-1,906 and 1,948-58 feet making 20 bbls. It was deepened to 1,963 feet and increased to 75 bbls.

Wichita County

Archer Oil Co.'s No. 1 Lewis was a failure and plugged at 855 feet. T. F. Hunter's No. 17 Waggoner was also a duster at 940 feet; No. 18 pumped 30 bbls. at 1,728-32 feet; No. 19 pumped 25 bbls. at 1,737-41 feet; No. 20 pumped 17 bbls. at 1,423-38 feet; No. 21 was abandoned as dry at 1,956 feet; No. 22 was also plugged at 846 feet; No. 23 pumped 20 bbls. at 1,424-29 feet; No. 24 was a dry hole at 1,789 feet; No. 25 pumped 16 bbls. at 1,523-38 feet; No. 27 pumped 20 bbls. at 1,428-37 feet; and No. 28 pumped 8 bbls. at 645-53 feet.

The Texas Company's No. 327 Waggoner was dry and abandoned at 2,251 feet; No. 328 was also plugged at 2,251 feet.

Throckmorton County

Red Bank Oil Co.'s No. 1 Elliott was plugged and abandoned at 4,201 feet.

Young County

Christie & Maddox' No. 1 Weichman was a failure and plugged at 1,201 feet. Hester & Hawkins' No. 1 Farrow was also a duster at 1,015 feet. And so was Williams and others' No. 1 Bagley at 672 feet.

Coones & Hotchkiss' No. 1 Johnson was dry and abandoned at 2,362 feet.

WEST TEXAS COMPLETIONS

Crane County

Landreth Production Corp.'s No. 1 Cowden-Anderson had sand at 2,780-2,930 feet and made 1,000 bbls. at 2,810-2,915 feet after an 180-quart shot. Tidal and Magnolia's No. 1 University-H found sand at 3,053-67 feet and was plugged back to 3,062 feet with lead wool and was shot with 120 quarts at 3,023-42 feet after which it pumped 55 bbls.

Jones County

Bateman & Campbell's No. 1 Southard was a failure at 2,508 feet. So was Grisham & Hunter and Wildman Petroleum Co.'s No. 1 Williams at 3,014 feet.

Mitchell County

Magnolia Petroleum Co.'s No. 4 Mary Foster was plugged back to 2,890 feet and made 6 bbls. of oil and 2 bbls. of water after a 120-quart shot at 2,652-72 feet, total depth 3,250 feet.

Upton County

Dixie Oil Co.'s No. 25 Burleson had sand at 1,950-2,035 feet and made 292 bbls. June 6, 860 bbls. June 9, 743 bbls. June 10, 713 bbls. June 11, and 723 bbls. June 12. Humble Oil & Refining Co.'s No. 5 Ricker topped first pay at 2,155 feet and made 830 bbls. from sand at 2,255-68 feet. Independent Oil & Gas Co.'s No. 71 Taylor was plugging to abandon at 3,250 feet. Prairie Oil & Gas Co.'s No. 2 Allie Lane, found top pay at 1,965 feet and got a slight trace of sulphur water and was plugging back to 2,045 feet and made 102 bbls., total depth 2,052 feet. Sartain & Davis' No. 1 Bull was a duster at 3,523 feet.

Winkler County

Independent Oil & Gas Co.'s No. 1 Hendricks was shot several weeks ago with 60 quarts at 3,047-60 feet and was completed for 50 bbls. of oil and 5 bbls. of water, total depth 3,093 feet.

NORTH CENTRAL TEXAS COMPLETIONS

Brown County

Alford Oil Co.'s No. 2 Davis was a failure at 1,425 feet. J. K. Hughes' No. 15 Shore found sand at 1,275-91 feet and was estimated at 350 bbls. after 3 and 5-quart shots; No. 20 made 250 bbls. initially from sand at 1,290-1,307 feet; No. 32 was estimated at 500 bbls. after a 5-quart shot at 1,291-1,313 feet; No. 33 made 400 bbls. initially from sand at 1,294-1,317 feet after a 5-quart shot; No. 34 also made 500 bbls. initially from sand at 1,287-1,309 feet after a 5-quart shot. Humble Oil & Refining Co.'s No. 17 Rickman had sand at 1,201-31 feet and made 35 bbls. McKanna and others' No. 17 Shore made 300 bbls. at 1,307-17 feet, total depth 1,323 feet; No. 18 made 200 bbls. from sand at 1,306-28 feet.

Pitts and others' No. 1 Jones was dry and abandoned at 1,318 feet. Sinclair Oil & Gas Co.'s No. 5 Shore had sand at 1,298-1,316 feet and was estimated at 100 bbls. It will be shot; No. 6 was shot with 3 quarts and made 75 bbls. initially from sand at 1,305-14½ feet. Terrell & Morrisey's No. 1 Rumph and others was shot with 20 quarts at 1,189-97 feet and swabbed 10 bbls. in four hours and is now cleaning out. The Texas Company's No. 56 Lowe made 116 bbls. initially from sand at 1,261-73 feet after a 3-quart shot; No. 59 made 60 bbls. initially from sand at 1,301-21 feet; No. 63 was shot with 3 quarts and made 100 bbls. initially from sand at 1,278-98 feet, total depth 1,300 feet; No. 65 made 55 bbls. at 1,318-36 feet after a 3-quart shot, total depth 1,338 feet; No. 83 found sand at 1,243-49 feet and made 30 bbls. after a 10-quart shot, total depth 1,259 feet; No. 84 was shot with 3 quarts and made 75 bbls. from sand at 1,255-71 feet, total depth 1,274 feet. Wentz Oil Corp.'s No. 20 Shore made 100 bbls. initially from sand at 1,308-26 feet.

Coleman County

Senior Oil Co.'s No. 1 Langhlin was a duster at 1,403 feet. Broderick & Calvert's No. 1 Weaver had sand at 1,802-07 feet and made 3,500,000 feet of gas and was shut down for orders.

Eastland County

Louisiana Oil & Refining Co.'s No. 2 Sneed made 15 bbls. at 1,228-45 feet. Parson's No. 1 Wood had a hole full of water and was a failure at 3,774 feet. The Texas Company's No. 14 Hightower had sand at 1,215-26 feet and made 25 bbls., total depth 1,229 feet.

Palo Pinto County

Strawn Petroleum Co.'s No. 24 Stuart was temporarily abandoned at 930 feet.

Shackelford County

Gibson & Murphy's No. 2 Matthews was dry at 1,235 feet. Hope Oil & Gas Co.'s Nos. 13 and 18 Reynolds were temporarily abandoned. Sinclair Oil & Gas Co.'s No. 9 Nail was a duster at 2,010 feet. Southern Petroleum Exploration Co.'s No. 5 Dyer location was temporarily abandoned. Templeman's No. 1 Monohan was a failure at 905 feet.

Stephens County

Hart Oil Co.'s No. 1 Magers had sand at 3,735-50 feet, good for 1,500,000 feet of gas and some water, and is drilling ahead at 3,759 feet. Hickok Production Co.'s No. 1 Hamil was shut down for repairs at 3,292 feet with a show of oil. Mid-Kansas Oil & Gas Co.'s No. 4 Richardson was plugged back to 3,727 feet for a shot, total depth 4,050 feet. Shaw & Connors' No. 1 Brydon was plugged back to 3,905 feet and made 2,500,000 feet of gas at 3,850-3,905 feet after a 140-quart shot, total depth 3,967 feet. The Texas Company's No. 44-A Parks found sand at 3,712-18 feet and was estimated at 10 bbls. and drilling at 3,900 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending June 18

Company, Farm and Location—	Remarks—
ANDREWS COUNTY	
Calvin & Belt's No. 1 Ratliff & Bedford, C NE Sec. 16, Blk. A-54	Location.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 8, Blk. 73, Public School Land	Repairing rig and hauling in casing.
Sartain Oil Co. et al's (was Deep Rock Oil Co.'s) No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land	Shut down 100 ft.
C. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Spudded 30 ft. and shut down.
A. G. Carter & Zweifel's No. 1 Cowden, C SE Sec. 18, Blk. A-52, Public School Land Sur., elev. 3,156 ft.	Top salt 1,375 ft.; shut down for orders 3,500 ft.
Maer & Staniforth's No. 1 W. B. Taylor, C SE Sec. 15, Blk. A-42, Public School Land Sur., elev. 3,215 ft.	Top salt 1,650 ft.; drilling 3,830 ft.; little gas from 3,010 ft.
BORDEN COUNTY	
J. L. Kennedy's No. 1 J. S. York, SE cor. Sec. 322, Blk. 97, H. & T. C. Sur.	Fishing tools 980 ft.
Stivers et al's No. 1 Snodgrass, C NW Sec. 475, Blk. 97, H. & T. C. Sur.	Shut down 3,000 ft.; lime; contract depth.
BREWSTER COUNTY	
McPhail & Kemper's No. 1 Brown, C Sec. 43, Blk. WJC-8, T. C. R. R. Sur.	New location.
McPhail & Kemper's No. 1 McIntyre, SE cor. Sec. 31, Blk. 352, 7 mi. S of Alpine	Drilling 240 ft.
COKE COUNTY	
Danciger O. & R. Co.'s No. 1 Mrs. Byrnes, Clinton Sur.	Shut down for casing 602 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H. & T. C. Sur.	Shut down 1,215 ft. for 10-in.
CONCHO COUNTY	
Harry Adams et al's No. 1 Price, C SW Sec. 78, Blk. 71, Alex Gregg Sur.	Shut down 1,040 ft.
Arkansas Fuel Co.'s No. 1 Hartgrove, SW cor. NW Sec. 49, Blk. 70, H. & T. C. Sur., 12 mi. E of Paintrock	1,000,000 ft. gas 1,100-10 ft.; 4,500,000 ft. gas 1,142-47 ft.; small show oil in sandy lime 2,165 ft.; show oil 2,454-80 ft.; show oil and 200,000 ft. gas 2,494-2,512 ft.; bailed 8 bbls.; total depth 3,236 ft.; plugged back to gas sand.
JONES COUNTY	
Atlantic O. P. Co. and Landreth's No. 2 Howell	Total depth 2,700 ft.; plugging back to 2,540 ft. to shoot.
E. R. Brann's No. 1 E. M. Hawk, Sec. 71, Blk. 14, T. & P. Sur.	Moving in material.
Midwest Exploration Co.'s (was Campbell et al's) No. 1 L. H. Herndon, Sec. 6, M. E. P. & P. Sur., elev. 1,832 ft.	Oil sand 2,498-99 ft. (steel line correction); set 6-in. 2,498 ft. with wall packer at 2,482 ft.; swabbed 115 bbls. oil, very little water, June 17 in 10 hrs.; shut down for orders; fluid lowered to 2,474 ft.
Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands	Rig.
Gibson & Johnson's No. 1 Largent, C SE Sec. 50, Blk. 149, Dewitt Co. School Land	Pulling 6-in. 2,998 ft.
Gillette & Hickey's No. 1 M. E. Young, Tevanio Sur. No. 190	Total depth 1,450 ft.; running 6-in.
Hutson & Weaver's No. 1 Smith, Sec. 51, Blk. 18, T. & P. Sur.	Shut down for fuel 700 ft.
Kirk & Brewer's No. 1 J. H. Milsap, Justo Rodriguez Sur., League 357	Hole full salt water 2,403-10 ft.; shut down 2,540 ft.
Manhattan Oil Co.'s No. 1 S. W. King, Sec. 198, James Bartlett Sur.	Shut down 1,700 ft.
Marston Oil Co.'s No. 1 E. Howell, NW cor. SE W ½ of N 400 acres, Sec. 20, Blk. 19, T. & P. Sur.	Small show oil 2,496 ft.; shut down 2,545 ft.
Marston Oil Co.'s No. 1 J. S. Swan, Robert Spears Sur. No. 280	Hole full salt water 2,390-2,400 ft. and 2,435 ft.; drilling 3,015 ft.; hole full salt water.
Mid-Continent Petroleum Corp.'s No. 1 H. Evans, NE cor. SE SE Sec. 44, S. P. R. R. Sur.	Small show oil 2,881-32 ft.; hole full water 3,020-40 ft.; total depth 3,110 ft.; underreaming 5-in.

(Continued on Page 153)

Northwest Trend from Moore County

Wildcat There Taken as Encouraging Hope of Finding Production Toward Sherman County

By James H. Dameron
Staff Correspondent, Texas Panhandle Fields

AMARILLO, Tex., June 20.—Developments of A. D. Morton & Co.'s wildcat producer in Moore County, No. 1 Reeder, SW NW NE Section 191, Block 3-T, T. & N. O. Survey, which was completed as a 120-bbl. natural well, and the subsequent acreage trading, occupied most of the Panhandle operators' attention during the past week. In the proven and semiproven areas interesting completions were made while in other wildcat territories significant developments were reported.

Moore County's wildcat producer has caused more excitement and spending of money than any development in the Panhandle in the past few months. Comparatively little close-in acreage is available or was available but the bringing in of the well has led to the belief that the trend of the Panhandle Field will be further to the northwest. As a result considerable leasing is going on northwest of the Morton well and the campaign for acreage has extended into Sherman County. According to buyers acreage is being leased at what is termed a reasonable figure and for the most part the trading around the Morton well is reported to have been held within fairly reasonable prices.

The well is producing from six feet of lime pay at 3,373-79 feet, corrected depth. The oil is 33.7 corrected gravity crude. On June 10 the well made 55 bbls. on the swab from 3,373-75 feet and 45 bbls. on June 11. On June 12 the well was deepened four feet to 3,379 feet and flowed and swabbed 100 bbls. On June 13 the gauge showed it made 130 and on June 14 120 bbls. and a similar amount on June 15. It has been completed at 3,379 feet.

Two 500-bbl. tanks and four 250-bbl. tanks are on the lease. It is reported the operators do not contemplate shutting in the well which is approximately 25 to 30 miles from the nearest pipe line. Additional tankage has been ordered for the lease and it is believed the operators will continue to store production until pipe line connections are made.

Prairie Pipe Line Co. has a surveying party surveying for a 4-inch line from the Merchant Pool in Hutchinson County to the Morton well. While not confirmed, it is reported the Prairie Pipe Line Co. has purchased the franchise to supply Dalhart, Tex., in Moore County, with natural gas. The franchise was obtained by A. D. Morton. The Prairie company, through a subsidiary company, is building a gas line from the Amarillo Field to Lubbock.

Gray County Wells

Empire Gas & Fuel Co.'s No. 1 Meers, NE cor. SE Section 107, Block 3, I. & G. N. Surey, which would extend the Pampa Pool in Gray County a quarter of a mile to the west if completed as a producer, exhausted itself after showing for a good well. The well had production in lime and granite wash at 3,110-16 feet. The well made 185 bbls. on the swab the first 24 hours and 90 bbls. on the swab the second 24. The well will not flow and after the second 24-hour swabbing failed to produce. It is being drilled deeper and Monday the well was drilling at 3,153 feet.

In South Central Gray County John G. Lane's No. 1 A. Chapman, Section 19, Block 1, A. C. H. & B. Survey, was dry and abandoned at 3,315 feet. In the southern part of the county Purple Sage Oil Co.'s No. 1 Johnson, Section 8, Rockwell School Lands, which had a show of oil at 2,790-95 feet, is shut down at 2,828 feet and no gas showing. Two other interesting tests in that county, both showing oil but being delayed by fishing jobs, should tell their story within the next week or so. The tools are being drilled by in one test and casing is being drilled by in another.

Panhandle's deepest drilling well, Big Bed Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Section 7, Block 5-A, is still shut down at 4,992 feet waiting for a liner. The well got a showing of gas at 4,990 feet and the oil show at 4,992 feet. In the same county Gibson Oil Corp.'s No. 1 T. S. Jones was dry and abandoned at 4,220 feet. Another deep test to go off the boards was Amerada Petroleum Corp.'s No. 1 Frances Farwell, Section 27, Block 16, which went into salt water at 3,745 feet and was abandoned.

McIlroy Pool

Developments in the McElroy Pool of the Cockrell ranch in Hutchinson County were puzzling to operators during the week and the water encroachment in a diagonal offset to the Panhandle's largest gusher, threatens the well. No. 10 Cockrell, formerly No. 9, SE cor. of the north 80 acres of Section 4, Block B-3, D. & S. E. Survey, was reported to be making 1,250 bbls. of fluid, 14 per cent water. The following day the well's production was reported to be falling and the b. s. and water content had increased to 18 per cent.

Southeast of that well First National Oil Co.'s No. 1 Cockrell, NE S half SW Section 3, Block B-3, D. & S. E. Survey, was drilled to 3,088 feet and plugged back to 3,077 feet. The well was shot with 160 quarts at 3,003-77 feet and flowed 800 bbls. in six hours and then bridged 50 feet off bottom. The well is being cleaned out and is spraying 15 bbls. per hour. In the McIlroy Pool, McMan Oil & Gas Co.'s No. 2 E. Cockrell, a 400-bbl. well, was shot with 730 quarts at 2,845 to 3,010 feet and is making 1,000 bbls. daily. The First National Oil Co.'s well extends the McIlroy Pool production one-half mile to the southeast. Several other wells in the pool, however, have proved disappointing with only meager production and with water showing.

Compared to the tank car shipments during the first half of May the tank car shipment for the first half of June shows a slight increase. During the first half of June 1,854 cars of Panhandle crude were shipped out in tank cars and during May 3,905 tank cars of crude were shipped. The shipments and totals were at the following loading racks: Pampa, 927 cars Isom, 825 cars Panhandle, 99, and Kings Mill, 3 cars.

Leading the group of trades in the Panhandle territory during the week was the sale of the Danciger Oil & Refining Co.'s properties in the Wilcox-Pampa area of Gray County and in the Artesia Pool of Eddy County, New Mexico. The properties were sold to Dr. Fred M. Bosco, Amarillo; J. G. Cloud, Tulsa, Okla., and Ray M. Dunnett, Kansas City, Mo. The consideration was not learned. The purchasers organized the Operators Oil Co., and it is reported that the purchasers sold a half interest of their newly acquired properties to Chicago capitalists for $350,000. The property purchased is in production in New Mexico but no production has been brought in on the Wilcox-Pampa area property.

Pipe Line Construction

Construction work of the West Texas Gas Co.'s (Prairie Oil & Gas Co. subsidiary) Amarillo-Lubbock and Slaton line is progressing rapidly. Part of the pipe is being strung along the right of way and ditching is under way. Additional pipe is being unloaded daily at various points along the right of way. General contractors in charge of the line are Williams Brothers of Tulsa, Okla. The line is expected to be completed before fall and gas is expected to be going through the mains by early fall.

Only five new locations were reported in the Panhandle area the latter part of the week. In Gray County, Sullivan and associates have made location for No. 1-A Chapman, 330 feet north and west of the SE cor. S half SE, Section 7, Block 26. In the same county Roxana Petroleum Corp. made location for No. 4 Coombs and Worley, 330 feet each way from the NW cor. Section 39, Block 3, I. & G. N. Survey. In Hutchinson County, the Roxana corporation made location for No. 1 J. M. Sanford, 330 feet from the north line and 330 feet from the west line of 380 acres of the north half of Section 85, Block 46, H. & T. C. Survey.

In Carson County Skelly Oil Co.'s No. 6 and 7 on the Henry Schafer Ranch are corrected as follows. No. 7 Schafer, 330 feet from the north and east lines of Section 85, Block 4, I. & G. N. Survey. No. 6 Schafer, 330 feet from the north and west lines of Section 87, Block 4, I. & G. N. Survey.

PANHANDLE COMPLETIONS

Carson County

Empire Gas & Fuel Co.'s No. 1 C. R. Garner, Section 93, Block 4, was shot with 120 quarts in lime and granite wash at 3,104-52 feet and is swabbing and flowing 150 bbls. daily total depth 3,165 feet. The Texas Company's No. 6 M. C. Burnett, Section 113, Block 6, is swabbing 320 bbls. per day from 2,920-67 feet. The pay was topped in lime at 2,920 feet; the second pay was found in granite wash at 2,940-49 feet and the third in lime and granite wash at 2,955-67 feet. The Texas Company's No. 10 Burnett Estate, Section 100, Block 4, had the pay in lime and granite wash at 3,014-27 feet and is swabbing 215 bbls. daily.

Hutchinson County

North of the Canadian River Phillips Petroleum Co.'s No. 15 Martin, Section 1, Block X. O. 2, H. & O. B. Survey, was completed, swabbing 100 bbls. after a 150-quart shot at 2,938-91 feet. The pay was topped in lime at 2,982 feet and the hole bottomed at 2,992 feet. South of the river the Atlantic Oil Producing Co.'s No. 2 Johnson Brothers, Section 22, Block Y, is an abandoned location. Midwest Exploration Co.'s No. 9 H. E. Smith et al, Section 13, Block Y, was shot with 60 quarts at 2,706-30 feet and is swabbing 135 bbls. daily.

Four wells were completed by the Phillips Petroleum Co. on the J. A. Whittenburg ranch. No. 8 Burg, Lot 8, M. Whitley Survey, is making 110 bbls. after a 110-quart shot at 2,917-2,879 feet. No. 8 Elra, Section 3, E. Tomlinson Survey, is making 10,000,000 feet of dry gas with a show of oil from 2,620-2,890 feet. No. 17 Patton, M. Whitley Survey, is swabbing 25 bbls. daily after a 140-quart shot at 2,927-77 feet. No. 10 Tinnie, Section 71, Block 46, flowed and swabbed 1,200 bbls. the first 24 hours after a 120-quart shot in lime at 2,818-60 feet.

Prairie Oil & Gas Co. and associates' No. 28-A Johnson Brothers, Section 21, Block Y, is swabbing 100 bbls. daily from lime at 2,965-87 feet. The rig was abandoned for Spurmack Drilling Co.'s No. 1 J. F. Weatherly. The rig was temporarily abandoned for J. D. Ward's No. 2 W. L. Kingsland, Section 6, Block Y.

Moore County

A. D. Morton & Co.'s No. 1 Reeder, Section 191, Block 3-T, T. & N. O. R. R. Survey, was completed in lime at 3,373-79 feet as a 120-bbl. well. The well is in rank wildcat territory and has opened a new pool in Moore County. It is the second producer in that county.

WILDCAT OPERATIONS IN PANHANDLE

Week Ending June 18, 1927

ARMSTRONG COUNTY

Company, Well, Farm Name, Section and Block—	Remarks—
Meadows et al's No. 1 E. D. Harrell, C Sec. 100, Blk. A-6, A. & G. Sur.	Rig.
United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 162, Blk. 4, H. & G. N. Sur.	Spudded and temporarily abd.

BRISCOE COUNTY

C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B. S. & F. Sur.	Fish., 1,600 ft.

CARSON COUNTY

Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y.	Temp. abd., 1,980 ft.
W. A. Gamble's No. 1-A John Dies, 30 ft N of cen., Lot 7, Blk. 11, Panhandle Townsite, Sec. 69, Blk. 3, T. T. R. R. Sur.	S.D., 1,045 ft. for casing.
Marland Oil Co.'s No. 1 Burnett-J, C NE NE Sec. 121, Blk. 5	Drlg., 3,165 ft; small spray oil 3,072-3,130 ft; salt water, 3,140-45 ft; dry granite wash, 3,245-58 ft; C.O.
Marston Oil Co.'s No. 1 J. L. Noel	Pulling 6-in., 3,064 ft.
Navajo Oil Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y.	8-in; 2,150 ft; S.D.
Stubblefield et al's No. 1 E. Cooper, SW cor. NE Sec. 5, Blk. 9, I. & G. N. Sur.	Drlg., 1,479 ft.
Vltek Oil Co.'s No. 1 J. H. Eller, NE cor. NW Sec. 200, Blk. 3	Spudded and S.D.
Vltek Oil Co.'s No. 1 C. R. Garner, SW cor. Sec. 113, Blk. 4, I. & G. N. Sur.	Drlg., 2,840 ft; 15,000,000 ft. gas; first gas, 2,795 ft. and 3,070-80 ft; show oil, 3,040-45 ft; S.D., 4,240 ft.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Siemons, SW cor. Sec. 78, Blk. M-17, B. S. & F. Sur.	Rig blown down.
Gulf Prod. Co.'s No. 1 Clements, SW cor. Sec. 27, Blk. M-10-A, Sealy & Morris Sur.	Top lime, 3,445 ft; set 6-in., 3,925 ft; drlg., 4,240 ft.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE Sec. 333, Blk. M-6, S. K. & K. Sur.	S.D., 510 ft. for casing.

CHILDRESS COUNTY

C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	S.D., 3,000 ft.

COLLINGSWORTH COUNTY

Harmon & Deems' No. 1 Wilson (Scott), Sec. 44, Blk. 21.	Loc.; temporarily abd.
Wischkamper's No. 1 fee, C SE Sec. 93, Blk. 16	Drlg., 2,600 ft.

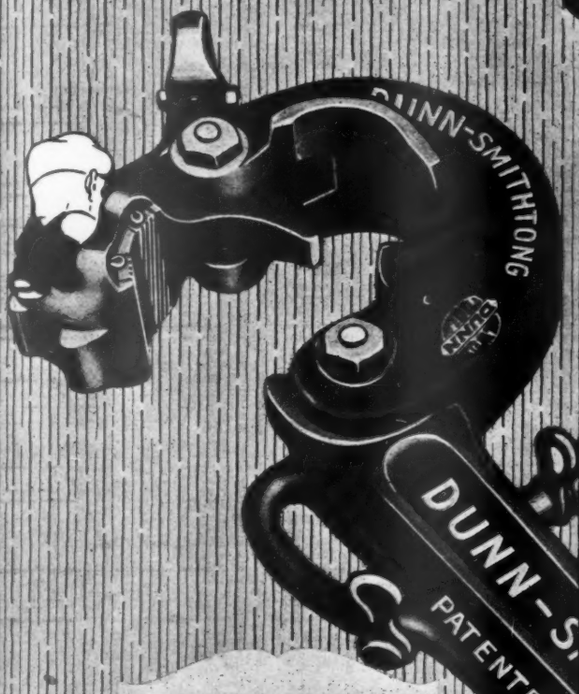
GRAY COUNTY

Atlantic O. P. Co.'s No. 1 Combs & Worley, NW cor. NE Sec. 39, Blk. 3	Drlg., 1,925 ft.
Archer, Blake et al's No. 1 Turneau, Sec. 111, Blk. 2-B.	Spudded and S.D.
Amos et al's No. 1 Crews, NW cor. Sec. 9, Blk. 25	Drlg., 1,965 ft.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B	T.D., 2,666 ft; gas shut in and mixing mud to kill gas.
British-Amer. O. Co.'s No. 1 J. E. Meers, Sec. 107, Blk. 3.	58,000,000 ft. gas and slight spray oil; S.D., 3,190 ft; will possibly complete as gasser.
British American Oil Co.'s No. 1 J. M. Patton, Sec. 61, Blk. B-2	Rigged and S.D; temp. abd.

(Continued on Page 154)

DUNN TOOLAGRAM

do you figure damaged pipe- In your Tong upkeep?



Dunn Super-Safety Rotary Tongs are the only tongs used on both tool joints and drill pipe that will not crush or damage the pipe sufficiently to make it unsafe for further use within a very short time.

Do you add this damaged pipe to the maintenance cost of your tongs?

The interlocking design of Dunn Super-Safety Rotary Tongs, together with the unique action of the locking arm in its wide range of take-up, insures great strength and creates a positive grip. And yet, with this tremendous gripping power, they positively cannot dent, flatten, crush, crimp or otherwise damage the pipe.

We will ship any size of Dunn Super-Safety Rotary Tong, charges prepaid, for any kind of gripping and crushing test you want to make. If not satisfied, send it back at our expense.

Economy

Actual records in service show the upkeep of Dunn Super-Safety Rotary Tongs to be approximately 85% less than that of other makes. This is exclusive of drill pipe damage which, although difficult to accurately figure, is admittedly a tremendous item of cost.

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OIL WELL DUNN TOOLS

DUNN SAFETY *means* DONE SAFELY

11,000-Barrel Well Extends Earlsboro

Same Well Helps Boost Seminole Production to a New Peak of 395,304 Bbls. Opens Mile-Wide Circle of Territory

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

The Seminole Field in Seminole and Pottawatomie Counties closed the past week with a production of 395,304 bbls. and opened this week with a production on Sunday of 393,093 bbls. The unexpected large increase in production came mainly from the Empire Gas & Fuel Co.'s No. 1 Edmundson, SE cor. SW, Section 3-9-5, Earlsboro Pool, which made 11,002 bbls. the first 24 hours in addition to several hundred barrels that was lost on the ground shortly after the well came in at over 400 bbls. an hour.

The Sinclair Pipe Line Co. and the Gulf Pipe Line Co. are running the oil. A break in one of the lines caused a loss of a lot of oil, as about 3,000 bbls. of crude went on the ground before the break was repaired.

At the end of the 24 hours the well was flowing at the rate of 439 bbls. an hour or about 10,500 bbls per day. The Wilcox sand was found high in this test, a semiwildcat, at 4,255 feet, drilled in 6 feet.

The big well is five locations north and one west of the discovery well of Morgan & Flynn, drilled in in September, 1925, and which opened up the possibilities of production in that part of Seminole County. The Morgan & Flynn well was completed in Earlsboro sand at around 3,500 feet. It is also about three-fifth of a mile north of what was practically a dry hole (a 10-bbl. showing in the Wilcox), drilled by the Barnsdall Oil Co. It is three-quarters of a mile east of the Amerada Petroleum Corp.'s 6,900-bbl. initial producer. It is worthy of note that the Barnsdall dry hole above mentioned is now almost surrounded by big producing wells, a few locations distant, with the failure in the center. The Empire gusher opens up territory within a half mile on every side great enough to contain 39 wells and unless the big well on the Edmundson farm "blows up" —and there is no known reason why it should—all these 39 locations will very probably be drilled by the middle of September. Leases located nearest the Empire's 160 are those of the Magnolia, Barnsdall, Prairie, Amerada, Gypsy, Texas and Independent companies.

Just before the Empire well came in the general area was saved from a production decline by the installation of additional air lifts in the Bowlegs area. Few wells in the Bowlegs Pool flow naturally. At the close of last week only 8 out of a total of 119 were natural producers. In the old Seminole City Pool, 25 wells are flowing.

Other Big Earlsboro Wells

Other big wells in the Earlsboro area last week were the Prairie Oil & Gas Co.'s No. 1 Stidham, SW cor. NE, Section 11-9-5, which was flowing 4,560 bbls. at the close of the week from sand at 4,302-17 feet and the Barnsdall Oil Co.'s No. 1 D. Davis, NW cor. SE, Section 11-9-5, making 4,320 bbls. from sand at 4,314-19 feet. Both these wells offset the Barnsdall Oil Co.'s No. 2 M. Davis, which was a salt water well. Their performance as well as that of the Empire Gas & Fuel Co.'s No. 1 Edmundson show the uncertainty of operating in the Earlsboro because of its structural irregularity.

In the Pearson area in Pottawatomie County the Mid-Continent Petroleum Corp.'s No. 1 Doyle, SW cor. SE SW Section 19-7-4, was deepened from 3,819 feet to 3,844 feet and the production increased from 682 bbls. to 1,720 bbls. a day. The Globe Refining Co. is taking the oil which has a gravity of 37 degrees.

The Pierson Pool of Pottawatomie County had a disappointment in Pure Oil Co.'s No. 2 Doyle, NW cor. SW Section 30-7-4, which had lime 3,752-54 feet, shale to 3,785 feet, and is drilling at 3,790 feet with nothing showing. This well is now very low, and should have had the Hunton lime around 3,730 feet.

In this territory Pure Oil Co.'s No. 1 Doyle, NE cor. NW NW Section 30-7-4, completed 10 days ago, is making 450 bbls. The Twin State Oil Co.'s No. 1 Spangy, SW cor. SE Section 19-7-4, is flowing 240 bbls. daily from lime 3,722-84 feet.

Pipe Line Runs

The pipe line runs and shipments in the Seminole area for the 24 hours ending June 20 were 333,350 bbls.; the tank car shipments 25,500 bbls. and the oil run to storage in the field 36,000 bbls., a total for the day of 394,850 bbls.

On the day the peak production was recorded the pools produced as follows:

Pool—	Wells	Prodn. Bbls.
Bowlegs	116	158,769
Earlsboro	72	89,097
Seminole City	302	108,643
Searight	42	38,795
Total	532	395,304

On the following day (from Sunday at 7 a. m. to Monday at 7 a. m.) the production was divided as follows:

Pool—	Wells	Prodn. Bbls.
Bowlegs	119	159,725
Earlsboro	72	86,065
Seminole	302	108,764
Searight	42	38,539
Total	535	393,093

SEMINOLE FIELD PRODUCTION

For the 24 Hours Ending Monday Morning, June 20, at 7 o'Clock

Bowlegs

Company and Lease—	Wells	Prod.
Amerada:		
Rasco	8	11,035
Atlantic:		
Baker	2	4,187
Fleet	2	1,465
Grayson	1	1,455
Jones	2	594
Barnsdall:		
McNac	1	80
Carter:		
Bowlegs	2	5,005
Harjoche	4	4,520
McGelsey	1	190
Walker	1	2,930
Wise	4	11,000
Empire:		
Lacy	4	5,780
Gypsy:		
Brown	1	72
Walker	6	4,689
Independent-Marland:		
Coker	1	1,215
Indian Territory Illum.:		
Billington	1	489
Davis	2	3,007
Goforth	9	12,479
Livingston	8	19,174
Walker	11	12,943
Wilmont	3	4,799
Work	1	742
Youngblood	3	2,932
McColloch:		
Bowlegs	1	0
Mid-Continent:		
Baker	2	2,657
Hutke	1	445
Minnehoma:		
Bowlegs	2	2,867
Prairie:		
Gahagen	1	2,075
Harber	3	5,685
Whitney	2	1,685
Pure:		
Reed	13	17,860
Roxana:		
Taylor	4	1,741
Shaffer:		
Lacy	2	2,833
Sinclair:		
Adam	1	15
Bowlegs	1	160
Ellen	1	2,345
Harjo	3	3,675
Jones	1	2,140
Taylor	1	2,355
Walker	2	3,640
Texas:		
Reed	2	1,925
Total	116	159,725

Earlsboro

Amerada:		
Anderson	3	5,647
Cowden	1	4,880
Barnsdall:		
Davis, D.	1	3,096
Davis, M.	1	0
Gibson	1	2,880
Peter	1	1,046
Sebolka	1	3,870
Smith	1	1,042
Crosbie:		
Bryant	1	2,940
Empire:		
Edmundson	1	10,500
Gypsy:		
Bora	1	0
Earl	1	5
McFarland	2	75
Peter	2	2,083
State	4	5,672
Strain	1	0
Independent:		
Knapp	1	1,771
Interocean:		
Payne	1	570
Magnolia:		
Bryant	2	5,229
Holmsley	1	6,272
Lena	1	3,170
Simpson	1	4,386
Sparks	2	6,686
Mid-Continent:		
McCumber	2	4,172
Phillips:		
Graham	4	2,420
Philmack:		
Dobbs	2	391
Prairie:		
Baker	1	155
Stidham	1	3,995
Sinclair:		
Foreman	1	0
Shallow production	29	3,986
Total	72	86,065

Seminole

Carter:		
B. Carter	2	240
J. Carter	4	50
P. Carter	2	482
R. Cudjo	4	1,852
W. Cudjo	1	358
Gilliland	1	240
Grisso, W.	8	1,080
Knapp	3	1,240
Killing, M.	10	15,410
Killing, G.	4	1,270
Lukes	6	3,630
Simpson	2	480
Strother	3	4,882
Vierson	4	870
Amerada:		
Fixico	4	1,932
Killing	1	624
Rentie	4	1,320
Atlantic:		
Cudjo, N.	4	950
Cudjo, J.	2	.....
Barnsdall:		
Carter	9	4,100
Jones	4	1,940
Henry	1	65
Empire:		
Gross	2	2,200
Wilson	3	1,014
Gypsy:		
Butler	3	985
Carter	8	2,240
Cudjo	4	1,845
Fixico	7	332
Harjo	2	1,037
Wolf	6	995
Independent:		
P. Fixico	4	340
Harjo	1	.....
Independent and Garland:		
T. Fixico	8	895
Independent and Inter-Ocean:		
Jones	6	982
Indian Territory:		
Bowlegs	10	4,540
Gooden	4	455
Harjo	4	704
James	4	1,119
Marcey	1	.....
Reed	3	59
Kingwood:		
Johnson	5	2,462
Magnolia:		
Franks	3	2,012
Mid-Continent:		
Rentie	9	1,840
Tayeche	7	595
Mid-Kansas:		
Pressley	1	31
Johnson	1	729
Phillips:		
Strothers	3	1,370
Philmack:		
Butler	2	800
Prairie:		
Gross	5	79
Mason	1	1,300
Spencer	1	27
Strother	8	2,560
Pure:		
Strother, A.	17	3,255
Roxana:		
Harber	2	465
Lashley	2	195
Sinclair:		
Carter	2	40
Cudjo, A.	6	1,510
Cudjo, B	3	1,160
Dicey	1	625
Fixico	4	740
S'ick:		
Born	1	.....
Cudjo	3	1,510
Franks	8	830
Giblet	1	1,005
Superior:		
Cudjo	4	2,333
Texas:		
Mayhue	1	32
Tidal:		
Carter	5	2,520
Fixico	8	1,650
Harjo	7	900
Maharty	5	940
Tayeche	2	2,010
Turman:		
Cudjo	4	880
Grisso	1	320
Jones	4	2,400
Total	302	108,764

Searight

Carter:		
Davis	5	8,175

ONLY DRY HOLES REPORTED FROM FIELDS OF EAST CENTRAL TEXAS

By Special Correspondent

CORSICANA, Tex., June 18.—Reports that the Magnolia Petroleum Co. had a showing of oil in its deep test in Cherokee County arose out of the fact that when the company was trying to get the drill stem out of the hole in which it had become stuck a quantity of fuel oil was poured down the hole for lubricating purposes. As a lubricant it was a success, the tools being recovered shortly after. Some of the oil found its way through the rotary mud and cavings into the sand below which it saturated and after the well was cleaned out and drilled deeper the oil-saturated sand fooled scouts and correspondents alike. The test which is No. 1 Summer on the Brewer Survey had sand from 4,328 to 4,334 feet and casing was set at 4,336 feet.

The Kirby Petroleum Co. has started drilling its No. 1 Connor Sessions, in Cherokee County, and at last report was below 1,600 feet. The Humble Oil & Refining Co.'s No. 1 Reynolds Mortgage Co. was reaming chalk at 3,479 feet. The chalk was topped at 2,655 feet. The same company's No. 2 Earl & Ragsdale was coring sandy shale at 4,075 feet.

In Anderson County Cosden and others' No. 1 Douglas, Simpson Survey, was drilling at 400 feet. The Humble Oil & Refining Co.'s No. 2-A Southern Pines Lumber Co. was drilling at 4,421 feet.

In Fannin County the Honey Grove Oil & Gas Co. has abandoned No. 1 Broadfoot, Williams Survey, at 2,296 feet after finding a large dose of salt water.

In Franklin County Trout and others' No. 1 Gandy 100 acres, Truitt Survey, was abandoned at 3,330 feet.

In Freestone County the Orbit Oil Co.'s No. 1 Coleman, Howard Survey, was at a total depth of 3,366 feet.

In Hunt County the Amerada Petroleum Corp.'s No. 1 Walter Grainer, Hamilton Survey, set casing at 3,117 feet. There was a showing of oil in sandy shale at 3,111-49 feet.

The Pandem Oil Co.'s deep test in Limestone County, No. 1 Bassett, Walker Survey, Limestone County, was 4,826 feet in depth where it was being drilled in hard shale. Dillon & Hammond's No. 1 Fenner, Hoskin Survey, was drilling at 2,931 feet.

Reiter and others have abandoned their test on the Stubbs farm, Obern Survey, Navarro County, at 3,213 feet, after it had tested dry. The Magnolia Petroleum Co.'s No. 1 Marshall, Chambers Survey, has the pipe set at 4,354 feet and will be drilled deeper.

Restriction of production in a single oil field for a short interval is a laudable step indicative of the constructive spirit of the industry It is better than no restriction It is a good beginning

But nothing short of complete nation-wide restriction of production will really solve the present difficulty and insure a lasting and healthy condition Such restriction will be sound in principle

Keep up the wild-catting
Locate every available pool of oil
Explore new depths
Improve methods of production

But, bring out of the ground only as much as is required to meet economic needs based on cracking every available drop of crude in each barrel, and that means based on what The Cracking Process can do and is doing

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Frazier		4	7,935
Kiker		1	40
Scott		1	40
Stewart		1	.....
Gypsy:			
Cudjo		1	535
Mid-Continent:			
Grayson		5	5,700
Saloche		2	70
Prairie:			
Cannon		1	.....
Carter		1	10
Houck		1	10
Kincaid		8	5,025
Wiemer		1	.....
Pure:			
Aldridge		2	1,487
Roxana:			
Strother		1	3,598
Searight:			
Youngblood		2	.....
Sinclair:			
Polly		2	2,600
Twin State:			
Cudjo		1	930
Wilcox:			
Chupco		2	2,389
Total		42	38,539
Grand total		535	393,093

Carter County

Magnolia Petroleum Co.'s No. 7 Swartz SW cor. NW NE Section 26-2s-3w, is abandoned at 3,558 feet. The Prairie Oil & Gas Co. and Wirt Franklin's No. 11 Pruitt, SW cor. SE NW Section 3-2s-3w, a location, has been abandoned. Merrick-Gault Oil Co.'s No. 2-A Dixon, SW cor. NW Section 19-1s-3w, is producing 200 bbls. from a series of sands at 2,401-2,816 feet. Magnolia Petroleum Co.'s No. 7 Hardin, NW cor. SW Section 19-1s-3w, had a series of sands from 2,406 feet to 2,955 feet and was completed for 61,000,000 feet of gas.

Creek County

H. U. Bartlett and others are rigging up No. 13 H. Jessie, NE cor. SW NE Section 35-19-7. J. P. Flannagan has the rig up for No. 5 Forres, SW cor. NE SE Section 36-17-8. Devonian Oil Co. and Independent Oil & Gas Co.'s No. 3 Bigpond, NW cor. SW Section 36-15-7, is a rig on the ground. Location was made for No. 4 Bigpond, NE cor. SW NE Section 36-15-7. Twin State Oil Co. made location for No. 1 Barnett, NW cor. NE NW Section 15-15-8. Kennedy & Horner's No. 1 Tiger, NE cor. NW NW, Section 25-18-11, is spudding. Margay Oil Co. has the rig on the ground for No. 1 Jones, SE cor. Section 2-17-10. Elson & Amerada Petroleum Corp. have built the rig for No. 2 Wilcox, NW cor. Section 12-17-10. Pontiac Oil Co. has the rig on the ground for No. 4 Fulsom, NE cor. SW SW Section 13-17-10. Roland Oil Co. has moved a machine out for No. 1 Wilson, SE cor. NE SE Section 29-16-9. Enfisco Oil Corp. and others have the rig up for No. 3 Thompson, CSL SE NW Section 13-15-10. Sunray Oil Corp. and Dixie Oil Co. have built the rig for No. 1 Hammer, NW cor. SE Section 11-14-10.

Devonian Oil Co.'s No. 7 Miller, CSL SE NE Section 14-19-8, is dry and abandoned in sand at 2,900-22 feet. R. J. Jennings' No. 2 Tiger, SW cor. NW SE Section 36-15-7, is a dry hole at 2,940 feet. Margay Oil Co.'s No. 2 Wilcox, SW cor. Section 1-17-10, was completed for 540 bbls. in the Dutcher sand at 2,485-89 feet. Elson and others' No. 3 Turner, NW cor. NE NW Section 12-17-10, missed the sand and was abandoned at 2,658 feet. O. M. Ireland's No. 1-A Farley, SW cor. NE SE Section 13-17-10, is producing 35 bbls. from the Dutcher sand at 2,391-2,419 feet. Bassett and others' No. 1 Ricks, SE cor. NE SE, Section 35-14-10, is dry and abandoned in the Wilcox sand at 3,308-14 feet.

Grady County

J. B. Nichols made location for No. 1 Sanford, C SE SW Section 23-5-8w. Oklahoma Natural Gas Corp. made location for No. 3 School Land, SW cor. NW SW, Section 36-5-8w.

Grogan and others' No. 1 Scott, NE cor. Section 34-5-8w, set 5-inch casing at 2,086 feet, drilled to 2,305 feet and was completed for 37,000,000 feet of gas. Carter Oil Co.'s No. 2 Spaulding, NW cor. SE NE, Section 21-3-5w, had sand at 1,738-57 feet from which it is making 300 bbls. No. 1 Wall, NW cor. NE Section 21-3-5w, was completed for 377 bbls. in sands at 1,760-74 feet and 1,788-96 feet. No. 3 W. E. Polson, SE cor. NE SW Section 27-3-5w, is pumping 15 bbls. from sand at 1,508-18 feet.

Garfield County

Roxana Petroleum Corp.'s No. 13-W Schroeder, NW cor. NE SW, Section 18-22-3w, Garber Pool, was drilled to 3,855 feet and then plugged back to 3,451 feet and shot with 120 quarts and plugged and abandoned. Sinclair Oil & Gas Co.'s No. 33 West Kisner, NW cor. SW NE NW, Section 19-22-3w, an old well in the Garber Pool, deepened to 4,842 feet and encountered water.

Hughes County

Future Development Co. and Schermerhorn Oil Co. made location for No. 1 Bruner, C SE NE Section 20-9-9.

Kiowa County

A. C. Varner's No. 1 Bonham, SE cor. SW NW NW Section 5-6-18w, has been abandoned at 1,127 feet.

Lincoln County

Magnolia Petroleum Co. made location for No. 2 Benedict, NE cor. SE NW Section 7-14-4. No. 1 Clark, NW cor. Section 14-15-5, has been completed for 5,000,000 feet of gas from sand at 3,592-3,635 feet, total depth being 3,670 feet. No. 1 Staubus, NW cor. SW SE Section 8-14-14, drilled to 4,765 feet and was plugged back to sand at 4,550-60 feet and is flowing 20 bbls.

Kay County

O'Kansas Oil Co. is building the rig for No. 1 Chambers, NW cor. SW Section 29-27-1w. Blackwell Oil & Gas Co. made location for No. 1 Goodson, C NE NW, Section 5-26-1.

Comar Oil Co.'s No. 5-W McCullough, SE cor. SW SE Section 5-28-1w, made 611 bbls. from sand at 3,451-62 feet. Harold Petroleum Co.'s No. 1 J. Moore, SW cor. NW Section 4-27-1w, has been abandoned at 4,740 feet. Marland Oil Co.'s No. 1 Gaylor, NE cor. SW Section 19-27-1w, an old well deepened, has been completed for 3,500,000 feet of gas in sand at 1,977-84 feet. Blackwell Oil & Gas Co.'s No. 1 Baldwin, SE cor. NW Section 32-27-1, has been abandoned at 875 feet. Marland Oil Co.'s No. 3-A Fitzgerald, SW cor. SE NE Section 1-26-2w, is swabbing 300 bbls. from the Wilcox sand at 3,654-3,702 feet. No. 1 Higgins, C W half SW Section 1-26-2w, Hubbard Pool, has been abandoned at 3,868 feet.

Muskogee County

Sioux Oil Co.'s No. 1 Jordan, NW cor. SE NE SE Section 14-13-18, is spudding. Link Oil Co.'s No. 1 W. Austin, SE cor. NE Section 32-15-15, is producing 60 bbls. from the Wilcox sand at 2,041-65 feet. H. L. Jolly's No. 1 Ross, SW cor. NW SE Section 9-14-19, is dry and abandoned at 600 feet.

Okfuskee County

Roxana Petroleum Corp.'s No. 1 Wilson, NW cor. SE NE Section 7-13-7, drilled to 4,515 feet, plugged back to sand at 4,057-80 feet and is making 3,000,000 of gas. Vincent and others' No. 2 Anderson, NW cor. SE Section 3-13-11, is dry in the Wilcox sand at 3,067-3,115 feet. Carter Oil Co. and others' No. 3 Unallotted, SE cor. NW Section 23-11-11, is dry and abandoned in the Wilcox sand at 3,547-3,611 feet.

Okmulgee County

J. A. Swindler & Sons made location for No. 11 Lewis, CSL SE NE Section 25-13-11. B. Morgan has the machine in to deepen No. 1 Bird, SE cor. NE SW Section 8-12-12. Garrett and others' No. 1 Strip, NW cor. NE NE Section 7-11-12, is drilling deeper at 1,605 feet. Tiger Mountain Oil Co.'s No. 12 Huckaby, SW cor. SE Section 25-14-11, is dry in the Turkey Mountain sand at 3,214-3,300 feet.

Osage County

Indian Territory Illuminating Oil Co. is rigging up to deepen No. 94 SW cor. SE SW Section 25-27-10. Phillips Petroleum Co. made location for No. 1, NE cor. SE Section 29-26-6. Indian Territory Illuminating Oil Co. is rigging up No. 367, NW cor. NE NE Section 3-26-11. No. 366, SW cor. NE NW Section 28-26-11, is also being rigged up. George Teslos made location for No. 2, NW cor. NE NE Section 11-24-11. Braden & Co. made location for No. 14, NW cor. SW NW Section 12-21-8. Devonian Oil Co. is rigging up No. 4, SW cor. Section 27-21-10.

George Parker's No. 1, NE cor. SW Section 28-26-6, is producing 250 bbls. from the Burbank sand at 2,975-3,005 feet. The Texas Company's No. 1, NW cor. SE Section 28-26-6, was shot with 30 quarts in the Burbank sand at 2,968-2,980 feet and made 112 bbls. the first 18 hours. No. 1, NE cor. NW, Section 30-25-8, is producing 125 bbls. naturally from the Burgess sand at 2,456-82 feet. No. 2, SE cor. NE NW Section 30-25-8, is making 100 bbls. from the Burgess sand at 2,450-72 feet. No. 3, NE cor. SE NW Section 30-25-8, made 200 bbls. naturally from the Burgess sand at 2,438-63 feet. No. 4, SE cor. NW Section 30-25-8, was completed for 200 bbls. in the Burgess sand at 2,431-54 feet. No. 1, SW cor. SE Section 30-25-8, was shot with 15 quarts in the Burgess sand at 2,397-2,418 feet and is making 150 bbls. No. 2, SE cor. SW SE Section 30-25-8, was completed in the Burgess sand at 2,415-49 feet for 200 bbls. after a shot of 15 quarts. No. 4, NW cor. SE Section 30-25-8, made 475 bbls. in 24 hours from the Burgess sand at 2,420-48 feet.

Pawnee County

Ora Steen has the rig on the ground for No. 1 Townsite, NE cor. SE NW Section 9-20-7, Lots 9 and 10, Block 7. Blackwell Oil & Gas Co.'s No. 2 Hammer, NE cor. SW NE Section 3-20-6, is dry and abandoned at 3,960 feet.

Pottawatomie County

Magnolia Petroleum Co. is building the

(Continued on Page 138)

MOSTLY ROUTINE WORK REPORTED FROM THE FIELDS OF KANSAS

By J. L. Dwyer
Staff Correspondent, Kansas Fields

The Kansas fields reported only routine results in the last week, with the exception of a wildcat failure in McPherson County, a rig up for a test in Section 6-18-12w, in Barton County, and a new test started in Section 16-23-14e, in Coffey County. A 250-bbl. well in Section 9-27-6, Butler County, was the best well reported in the course of the week.

Barton County

Huffine & Crane have the rig up for No. 1 Everleigh, C SW SW Section 6-18-12w.

Butler County

Derby Oil Co. has built the rig for No. 1 Shriver, SE cor. NE Section 28-27-6. Patton and others are building the rig for No. 2 Sterns, NE cor. Section 33-27-6.

Allison & Fitzwilliams' No. 2 McGinnis, NE cor. NW NE, Section 9-27-6, was completed for 250 bbls. in sand at 3,144-50½ feet.

Chase County

Phillips Petroleum Co.'s No. 2 Lipps, C SW SW Section 29-18-7, is making 1,500,000 feet of gas from sand at 1,142-48 feet.

Coffey County

Harper Oil Co. is rigging up No. 1 Pilcher, SW cor. SE SW Section 16-23-14.

Cowley County

Hull and others made location for No. 1 Fuller, C N half Section 32-31-7. Roth & Faurot made location for No. 1 Shull, Lot 12, Block 28, City of Winfield, Section 22-32-4. Forrester and others' No. 2 Countryman, SW cor. NE NW Section 4-33-7, is spudding. Nathan & Brinn have built the rig for No. 1 Hughes, NE cor. NW SE Section 17-34-4.

The Texas Company's No. 1 Hettle, SW cor. NE SE Section 21-31-4, had sand at 2,417-26 feet and made 50 bbls. after it was shot with 5 and 20 quarts. Foster, Deal and others' No. 1 Overson, NW cor. SE NW Section 22-32-4, was shot with 40 quarts and produced 174 bbls.

Elk County

Pure Oil Co.'s No. 18 Chaffine, SE cor. NW NW SE Section 14-31-10, is making 40 bbls. from sand at 1,640-45

(Continued on Page 100)

PENN MEX TO RESUME OPERATIONS; OIL IN STORAGE TO BE MOVED

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mexico, June 17.—Held in abeyance so far as operations were concerned for over two years by virtue of a lawsuit of much magnitude, Penn Mex Fuel Co., a subsidiary of the South Penn Oil Co. of Pittsburgh, Pa., has compromised and settled this suit out of court, and so again is in a position to take an active place among the producers of worth in Mexican petroleum fields. Penn Mex's headquarters in this republic are at its Alvarez Terminal, at the mouth of the Tuxpam River, juxtaposed to the town of Tuxpam.

The immediate result of the settlement of this suit can be placed as follows: Resumption in the near future of its active drilling operations; the movement of at least part of its oil in storage at Alvarez Terminal to Tampico; the resumption of some deliveries to Mexican Eagle Oil Co. by direct pipe line connection of new production, based on the reopening and exploitation of its Alamo-Jardin wells closed in during the days while the suit pended in the courts.

Huasteca Petroleum Co. (subsidiary of the Standard of Indiana), has purchased at least two cargoes of Penn Mex's Alvarez Terminal storage. The first cargo is being brought to Tampico at this writing. Huasteca will use it to mix with the heavier production it controls from the northern fields in its Tampico refinery. Whether more of this storage will be purchased, and so transported, remains to be seen. There is credited to Penn Mex Fuel Co. as being in storage at Alvarez Terminal something over 500,000 bbls. Naturally, this being south fields production, the oil averages around 21-22 degrees in gravity.

Mexican Eagle Oil Co., Ltd., is preparing to run say 200,000 bbls. of new production from the reopened wells of the Penn Mex Fuel Co., the Mexican Eagle was running Penn Mex production (it has a pipe line connection with the latter's pipe line system) when the lawsuit shut the latter down by injunction. It will now run 200,000 bbls., presumably a new agreement for this volume of oil.

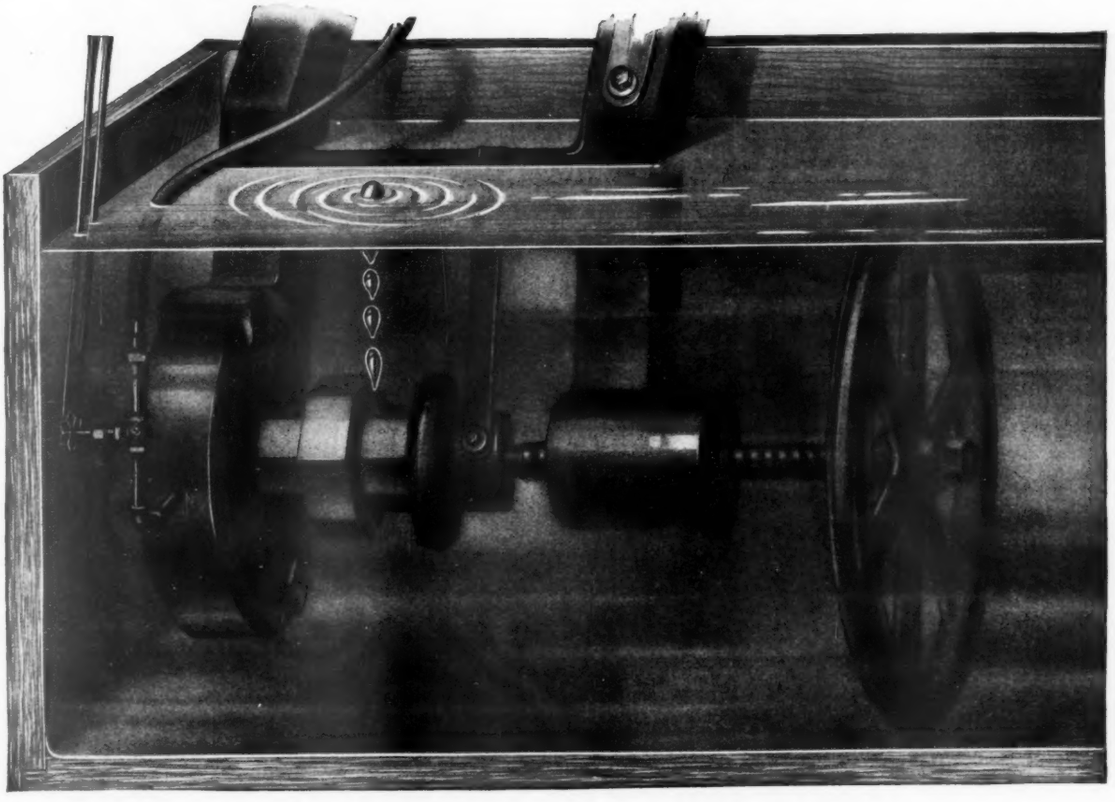
The Penn Mex Co. has some three wells, it is reported, in its Paso Real lease, which were drilled to cap rock when the injunction shut down all operations; and it is undersood that these tests will be drilled in immediately. The company has a gasoline plant in its holdings capable of some 30,000 gallons a day.

May Completions

Well completions during May totaled 63, of which 25 can be placed in the production column. The new production (potential head) secured is placed at 31,210 bbls. Of the new producers the north fields can account for 23, against a total of 60 completions; the south fields, 2 against to total of 3 completions. The new production is as follows: North fields, 30,760 bbls.; south fields, 450 bbls. It might not be amiss to remark at this junction that the scout reports show a steady decline of active strings in operation in both north and south fields for permits are, apparently, not forthcoming for those companies (and they are the principal major companies) who did not subscribe to all government regulations regarding old leases. Wherefore, as these

(Continued on Page 94)

Testing Kewanee Unions



"If she bubbles, *OUT* she goes!" *

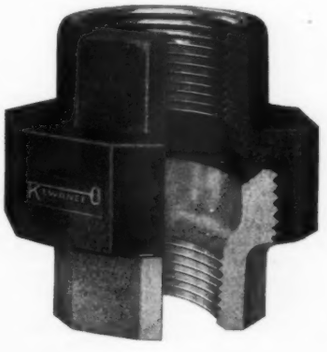
Millions of Kewanee Unions, one by one, have been put through this toughest of tests.

Every single one of them is made up tight, shoved down under water and given a good stiff shot of compressed air at 125 pounds pressure. A leak as big as a pin point means a bubble and a bubble means rejection on the spot—by Walworth standards.

This final individual inspection is Walworth's protection against your ever getting a defective Kewanee Union. It means that whether you order them by the carload or the fraction of a dozen, every Kewanee Union you install will go on to the job leak tight and ready to stand rigid inspection daily, for years to come.

5 Points of Advantage

1. Bronze-to-iron thread connection—no corrosion.
2. Bronze-to-steel ball-joint seat —no gasket.
3. Solid three-piece construction —no inserted parts.
4. * Tested by compressed air under water—no defective unions.
5. Easily disconnected with a wrench—no force required.



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Lockport Pool Completions Best

Contributes 2,300 of the 2,840 Bbls. New Production in Gulf Coast. Two Wells Collide at Spindletop

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., June 20.—It was another unusually quiet week in the Gulf Coast pools with only 2,840 bbls. of new production and 2,300 bbls. of that came from the Lockport Pool in south Louisiana, where the Vacuum Oil Co. and the Gulf Refining Co. are operating jointly. The completions number 14, of which 2 were dry and abandoned and 3 salt water holes.

The estimated daily average gross production reflects the dwindling new output developed from week to week, although Spindletop continues to hold at over 59,000 bbls. per day and Hull also shows some increase. The gross estimate for the week of June 18 is placed at 153,456 bbls., a slight decrease from the previous week.

The estimate for each pool is as follows:

Pool—	Daily Av.
Boling	1,850
Batson	1,350
Blue Ridge	4,450
Big Creek	3,925
Barber Hill	800
Dayton	30
Damon Mound	875
Edgerly (La.)	1,125
Goose Creek	8,350
Humble	4,510
Hull	18,375
High Island	242
Jennings (La.)	1,004
Lockport (La.)	6,800
Markham	450
Nash	1,530
Orange	5,850
Orchard	120
Pierce Junction	7,800
Piedras Pintas	70
Spindletop	59,500
Saratoga	1,105
Sour Lake	4,455
South Liberty-South Dayton	3,010
Stark (La.)	825
Welsh-Anse La Bute (La.)	30
West Columbia	8,750
*Miscellaneous	1,350
Vinton (La.)	4,925
Total	153,456

*Includes Nacogdoches, Washington and Kleberg Counties, Texas, and Cameron, Calcasieu and Iberia Parishes in Louisiana.

Of the gross output 15,559 bbls. are credited to the south Louisiana pools.

Southwest Fields

The Southwest fields averaged slightly less than last week, as follows:

Field—	Dy. Ave.
Luling	16,300
Mirando	13,750
Somerset	1,200
Calliham	27
Rockdale-Minerva	1,060
Lockport (Lytton Springs)	2,000
Total	34,337
Grand total for week	187,793
Grand total last week	188,340
Net decrease	547

Since the introduction of the geophysical methods of locating saline domes, with the consequent leasing of all the surrounding acreage by one or two of the major companies, but little interest is manifested in wildcats by the average so-called independents. He knows any attempt to "get in" on some of the acreage surrounding these prospects would be futile and therefore he has no keenness, such as is found in other regions. Now, that the big companies have adopted the policy of buying the royalties also whenever possible, the small fellow finds himself out of the running and is drifting to west Texas and Oklahoma.

Operations in the Gulf Coast have evolved into a "big fellows' game." The lease hound, with his map and jaunty, confident manner, is no longer found in the halls of the buildings occupied by the large oil corporations waiting for an audience with the head of the land department. His occupation is gone. Lease brokers in the coastal country are rapidly becoming as obsolete as the dodo. Only men of means can afford to engage in the leasing business in this country. He must have sufficient capital to have his own geophysical examinations made, the cost of which depends upon the amount of acreage to be surveyed and the number of "stations" that may be necessary to do the work successfully.

The natural gas industry has had a phenomenal growth in south Texas in the past three years, with the Houston Oil Co., through subsidiaries, the Houston Gulf Gas Co. and the Dixie Gas Co., a new corporation, competing. Naturally, they are in the market for gas territory. Gas from coastal wells is being used commercially for the first time since the region became oil producing. The Houston Pipe Line Co. is buying the gas from one of the Rio Bravo Oil Co.'s wells at Pierce Junction and the Houston Gulf Gas Co. has connected with M. Kouri's No. 2 Jones there. The Houston Pipe Line Co. is getting an average of 5,000,000 feet per day and the Kouri well is delivering around 1,000,000 feet per day.

The three large sulphur companies are always in the market for sulphur deposits usually found around saline domes. The Gulf Production Co. has acquired the sulphur rights at Long Point Dome in Fort Bend County, where it has been wildcatting for three years. The sulphur companies are the Union Sulphur, Freeport Sulphur Co. and the Gulf Sulphur Co.

As a consequence of the changed conditions in the oil business, some of the lease scalpers are turning their attention to gas and sulphur prospects.

The Humble Oil & Refining Co.'s No. 2 Reese in the Raccoon Bend district in Austin County, bailed mud and water at 3,360 feet, with perforated pipe set. The pipe will be pulled and screen set in 60 feet of sand streaked with shale. It is a wildcat.

Wells Completed

At Spindletop, the Gulf Production Co.'s No. 7 Mann set strainer, at 3,700 feet and the well flowed at the rate of 5,000 bbls. per day for two hours and then sanded up. It is being cleared. The Hines Oil Co.'s No. 2 Gordon is bailing at 3,195 feet. J. O. Davis abandoned No. 1 Gladys, west of production, at 6,150 feet.

On the west side at Pierce Junction, Anderson & Plummer's No. 1 Whitehead bailed salt water at 4,025 feet. M. Kouri's No. 2 H. Jones is a gasser at 2,890 feet, with the drill stem still in the hole. The Rio Bravo Oil Co.'s No. 7 Settegast is a salt water well at 4,375 feet. No. 3 Settegast, the gas well, which burned from Sunday until Wednesday, is now making 200 bbls. of oil at 3,500 feet. The flames were steamed out.

The Humble Oil & Refining Co.'s No. 10 Beaumont, in the bay waters at Goose Creek, is bailing at 4,300 feet. Wilson and others' No. 7 Busch is doing the same at 2,060 feet.

Benedum & Trees' No. 1 Hirsch, on the northwest side of the Humble Pool, is pumping some oil and sand at 2,800 feet. The hole was drilled to 4,260 feet when the drill pipe twisted off and it was plugged back. The Gulf Production Co. has started No. 1 Burt & Griffith as a deep test.

The Texas Company-Vacuum Oil joint No. 5 Hannah in the Hull Pool will make a pumper at 3,450 feet.

In the Orange Pool, the Texhoma Oil Co.'s No. 13 Chesson is pumping 165 bbls. at 3,400 feet.

The Texas Company's No. 4 fee in the Big Creek Pool is bailing at 3,900 feet.

In the South Liberty Pool, The Texas Company's No. 2 Staiti is bailing at 3,300 feet. No rigs are operating in that pool at present.

South Louisiana Pools

In the Lockhart Pool, the Vacuum Oil and Gulf Refining Co.'s joint No. 15 Miller is flowing 1,500 bbls., 7 per cent water and sediment, at 4,350 feet. No. 1 Miller was deepened to the same sand and is flowing 800 bbls. No. 2 Farquhar is a gasser at 3,750 feet. No. 2 Freidberg & Wolf bailed salt water at 4,800 feet and will be deepened.

The pool now has 20 wells, 13 of which are flowing, 1 on air and 5 pumping on jacks, with 1 gasser. The pool is in a swamp and 5 miles of elevated board walks have been constructed to enable the crews to get about. The joint interests have 10 tanks of 80,000 bbls. each for storage. The Vacuum Oil Co. takes the crude, shipping in tankers from Lake Charles to Paulsboro, N. J.

In the Vinton Pool, the Edgerly Petroleum Co.'s No. 12 Vincent is a 30-bbl. pumper at 3,700 feet.

Two Drill Into One Hole

A unique incident occurred in the deep sand section of the Spindletop Pool when the drill bits and pipe in the Gulf Production Co.'s No. 12 Oakwood and the Sun Oil Co.'s No. 14 McLean came together in one hole. The derricks are only 85 feet apart. The Gulf company's well was drilling around 2,255 feet and the Sun company's was about 3,500 feet. The angle made by the intersecting holes is estimated at 2 degrees and 10 minutes. The Sun company has plugged back to 2,200 feet and will try sidetracking a new hole from that depth. When the drill pipe was being "broken down" or disconnected in lengths of four joints at a time, slush would squirt out on both derrick floors. Although wells have been drilled very close together in the coastal pools cases of intersecting holes have been very rare. A similar case occurred in California several years ago, the wells in that instance being spaced 300 feet apart on the surface.

The Magnolia Petroleum Co.'s No. 3 Gladys on the south side is idle waiting for cement to set at 5,195 feet. No. 5 is drilling at 5,035 feet. No. 6 is rigging. No. 1 Tank Farm is at 4,910 feet. The Sun Oil Co.'s No. 1 Price is at 5,075 feet with No. 3 Price at 1,235 feet. No. 12 McLean is drilling below 5,570 feet. No. 13 is around 5,000 feet. No. 15 is at 3,765 feet. The Grayburg Oil Co.'s No. 1 McLean is at 5,310 feet. The Gulf Production Co.'s No. 3 McLean is deepening at 4,135 feet and No. 5-A is doing the same at 2,790 feet. No. 8-A is below 6,300 feet. No. 11 Oakwood is drilling at 4,415 feet. The Lord-Mothner Oil Co.'s No. 2 Banks will drill deeper.

The Texas Company's No. 1 Garrick, one-half mile north of production, is drilling at 5,080 feet. The Rio Bravo Oil Co.'s No. 50 T. & N. O. is about 4,450 feet in an oil sand.

The Yount Lee Oil Co.'s No. 26 fee is drilling in sandy lime at 4,320 feet. The same company's No. 13 McFaddin is at 4,950 feet. No. 29 is at 5,209 feet. No. 33 is setting casing to test at 4,638 feet. No. 34 is drilling around 3,700 feet. No. 35 is at 2,910 feet. No. 25 is pulling screen and liner at 3,880 feet. No. 31 is drilling in shale at 2,445 feet.

In the Batson Pool, the Sterling Oil Co.'s No. 6 Hooks is shut down, as is the Deutser Oil Co.'s No. 1 Colorado. The Texas Company's is rigging No. 1 Sterl-

(Continued on Page 97)

HOSPAH STRUCTURE, NEW MEXICO, CONTINUES CENTER OF INTEREST

By Special Correspondent

FARMINGTON, N. Mex., June 18.—The Hospah structure in the Seven Lakes district continues to hold the center of interest with the Midwest Refining Co.'s No. 2 nearing production and also the Staplin-Williams well a mile and a half further north. The last report was that there were some 15 rigs and locations already in that district, and if these two wells should show production anywhere equal to that of the Midwest Refining Co.'s No. 1, a number more will follow very rapidly. Some of the locations are holding back a bit to see what happens when these two wells strike the Mesa Verde sands. It is believed these wells will somewhat demonstrate the trend and extent of the proven structure. The Staplin-Williams well is reported to have had some trouble with lost lugs in the hole.

The New Mexico Oil Royalties Co., Section 20-14-9, is reported drilling at about 350 feet in the second hole started by this company. The first was abandoned on account of water and the location changed. The Midwest Refining Co.'s discovery well, Section 1-17-9, is closed down at a depth of 2,140 feet. Its No. 2, Section 2-17-9, is drilling at a depth of 1,550 feet and should be very close to the top of the Mesa Verde sand.

The Dysart well, section 21-14-9, is setting casing at a depth a little over 900 feet to make a water shutoff so they may test an oil showing at that depth. They believe they have a small commercial well when the water is shut off. They think they are in the Dakota sand.

New Location

The Ohio Oil Co., which made a location on Section 17-16-19 and later changed to Section 9, has now decided to do its first drilling on Section 30-17-9, it is reported.

The Inland Oil Co., a recent entrant in this district, is drilling at about 200 feet on Section 22-18-10. It is expecting shallow production. This company was just recently organized under the laws of this State.

The Picture Cliff Oil Co. is a new organization formed to operated in the Bloomfield district and composed of Albuquerque, N. Mex., capitalists. Guy R. Anderson, a driller, is president of the company; S. Arch Richards, secretary, and George Bryant, treasurer. It has secured 240 acres of deeded land in the Bloomfield district, 160 acres of the C. A. Ransom tract and 80 acres of the D. A. Martin tract. It is obligated to drill 24 wells on the acreage in the next five years and is moving in a rig. Guy R. Anderson will have charge of the field operations, with headquarters in Farmington.

The T. C. N. Oil Co., operating in the Bloomfield district, Section 9-29-11, was running 8¼-inch casing this week to secure a water shutoff at a depth of 680 feet and expects to resume drilling the latter part of this week. This is the last water expected before drilling into the shallow sands. C. W. Snyder, field manager, returned this week from a business trip to Denver.

C. L. Hubbell, field manager for the Portage Oil & Gas Syndicate, has returned from a conference with his financial backers, most of whom reside in

(Continued on Page 100)

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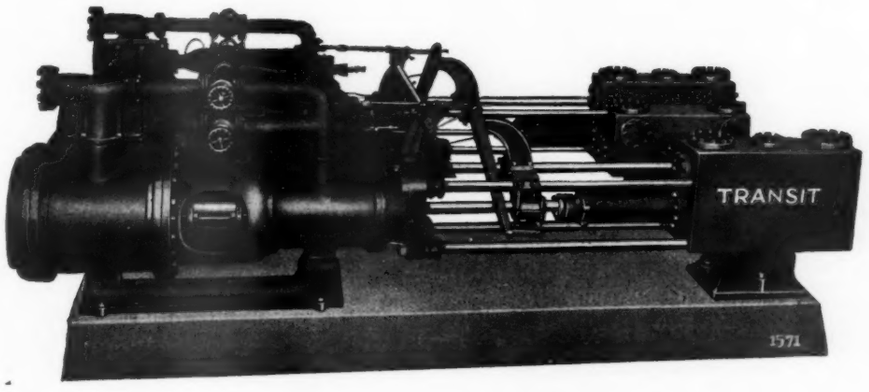

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New Oil Field Opened in Montana

Pondera Well Making Between 3,000,000 and 5,000,000 Feet of Gas and Said to Be Making 100 Bbls. of Oil

By Frank B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., June 18.—Montana has a new oil field, the strike being made at a depth of 2,100 feet and the well is gassing heavily, making about 5,000,000 feet of gas, according to one report and 3,000,000 feet according to another. It is being drilled by Ralph Arnold, a geologist of California, and W. M. Fulton, an operator of the Sunburst Field, and the location is on the Pondera Dome, about 50 miles northwest of Great Falls, Section 21-35-7e, Pondera County.

Besides making a commercial gasser, this well is further reported as making about 100 bbls. of oil with a gravity around 26 degrees and containing some sulphur. The public has been excluded from the rig.

Conservative examination of the reports emanating from oil men of that part of Montana give the well a commercial gas production, but are rather chary as to the amount of oil. The well was one of five located by Geologist Arnold in Montana and was being drilled by the Julian Petroleum Co. of California when that firm became involved. The Julian interests were then taken over by Geologist Arnold and W. M. Fulton.

The well found the Ellis sand at 2,100 feet. This is the Sundance sand of Wyoming and in northern Montana. The Triassic and a part of the Carboniferous are absent, so that the drill goes out of the Ellis into the Madison lime. At Sunburst Field wells recently drilled into the Madison lime have found another pay below the Ellis sand, so the Pondera well will hardly be considered a complete test if it is stopped at its present horizon.

The Ohio Oil Co. drilled a wildcat on the Pondera Dome several years ago and found all formations barren. Recent surveys have tended to show that the crest of the structure where the Ohio Oil Co.'s well was located is on a faulted area which may account for the Ohio company's failure to find any production.

Utah Operations

Snowden & McSweeney Co.'s No. 1 Prommel is dry at Cane Creek and will be abandoned at once; depth, 2,935 feet. This is a severe blow to the hopes of the oil men interested in eastern Utah for it means that the Cane Creek Dome, where the Midwest Refining Co. drilled its discovery well, is very limited in size and, because of the location of the structure in a deep canyon, far from a railroad and refining points and very difficult to take oil out of, it may mean the abandoning of the whole structure by the oil firms although they know that the upper contours enclose an oil pool that the discovery well found at 2,000 feet.

Other wildcats are drilling in that region of eastern Utah. The Midwest Refining Co. has one well on a great structure, the Elk Ridge, which, if it should come in a producer, would mean a very large field discovered. This well is at 2,245 feet and is expected to cut sands very shortly where production is expected.

On the Gibson Dome, Grand County, Section 6-20-21, the Empire Gas & Fuel Co. has a wildcat at 3,600 feet and is running a string of casing to shut off water as a possible oil bearing sand is expected soon. Near Moab, Grand County, the Embar Oil Co. has a wildcat in Section 34-25-21 at 3,810 feet and is expecting sands at any time. On the Cedar Mesa, San Juan County, the Utah Southern Oil Co. and the General Petroleum Co. and others is at 2,855 feet.

The Cane Creek Dome is now believed to be a salt dome, such as are found along the Gulf Coast. A theory is advanced that since the Prommel well is located on the axis of the structure, it would not find oil but that the structure will be productive all along the flanks. The theory is interesting but whether the operators care to spend more money to prove it remains to be seen.

Colorado Development

The Texas Production Co.'s test in the Tow Creek Field, Routt County, Colorado, No. 3 Quaintance, Section 7-6-86, found a shale pay at 2,610 feet and is making a test. It looks like the well will make a good producer. The same company is drilling two new wells on the lease it bought on the Iles Dome, Moffat County, the tract joining the Midwest Refining Co.'s holdings where the latter firm brought in a big producer last month in the Nugget sand. The Texas Production Co.'s No. 1 is spudding and No. 2 has hitched on the beam and is about 450 feet.

On the Hiawatha Dome, on the Wyoming and Colorado state line, the Myres Syndicate that drilled the discovery well last year is expected to start a second hole shortly. The Ohio Oil Co. has started spudding in Section 21-12-100, on the Colorado side of the line in Moffat County. This is the structure and gas field that is expected to furnish gas together with the Baxter Basin Field in Sweetwater County, Wyoming, for Salt Lake City, Utah.

Paul S. Ache is preparing to start a well on a permit on the Hiawatha Dome. Tools and rig for this test are being made ready at Casper and will be sent to the structure by trucks.

Wyoming Completions

In the south end of the Elk Basin Field, Park County, the Local Oil Co. has a producer that will do 150 bbls., in Section 32-58-99, in the Frontier sand. The Henderson Petroleum Co. in Section 5-58-99 is also a producer. This well is classed in the reports as a Wyoming well, but it appears to be across the line in Montana.

In the Maverick Springs Field, Fremont County, The Texas Company, in Section 26-6-101, is making a producer in the Embar sand of No. 7 Keenan, by shooting. This is a black oil operation.

In Section 36-48-100, the Ohio Oil Co. has a big gasser in the Buffalo Basin Field, Hot Springs County. The gas was found in the second Frontier sand and is estimated at 20,000,000 feet.

The Midwest Refining Co. drilled in a gusher in the Lakota sand at Salt Creek for the Midwest Oil Co. This well is in Section 26-40-79 and found the Lakota sand at 2,465 feet. It spouted at the rate of 4,544 bbls. in 24 hours until shut in.

The Midwest Oil Co. also completed a producer good for 90 bbls. in Section 25-40-79 in Salt Creek at a depth of 1,215 feet and one in the same section that found the pay at 1,180 feet and will make a pumper.

Bear's Den, Montana

The Bear's Den well that caused some excitement in northern Montana last week is now drilling in a lime at about 2,300 feet, but the roads are impassable due to recent rains there. This is being drilled by the Sunburst Oil & Gas Co. and no more showings have been reported. This well will make a commercial gasser, but the company hopes to find an oil producer there also.

In the Sunburst Field, Toole County, the Homestake Oil Co. brought in an odd producer on the state lease that is making oil from three distinct sands; at 1,300 feet a sand was picked up that made 25 bbls. production, then at 1,330 feet another came in with an additional 30 bbls. At 1,465 feet the Ellis sand was found and the production jumped to 1,000 bbls. daily.

The same company also completed a producer good for 40 bbls. on the Reible lease in the central part of the field. This production is in the Sunburst sand at 1,242 feet, Section 4-35-2.

The Dakota Montana Oil Co. found two dusters in the Ellis sand in the new Wilcox Pool area on the east side of the field, but these two holes are being drilled into the Madison lime for a test of any stray sands that may be in that formation.

The California Co. drilled into the Ellis and found a small showing there, then drilled on down but found no pay below. This well is now plugging back to shoot at the Ellis.

The Sunburst Oil & Gas Co. found a dry hole in the Ellis sand in the south end of the field and the Zenith Oil Co. and the Abell Oil Co. also found similar holes the past week and are abandoning.

The Maharg Oil Co. in Section 26-35-3 found an Ellis stray sand at 1,546 feet and will have a 30-bbl. producer.

A proposed high-tension electric line is to convey electric current from Guernsey, near Wheatland, in Platte County, Wyoming, to a connection with the electric system now operating the Big Muddy Field and the Continental Oil Co.'s refinery east of the field. This line will be able to serve any field in the North Platte Valley, between the Guernsey dam and Casper, a distance of about 100 miles.

The Mountain States Power Co. has applied for and received a certificate of convenience from the State of Wyoming for the building of a transmission line to carry a voltage of 33,000 volts. Arrangements have been completed for such a line to obtain its electric current from the water power development which the Federal Government has established at the dam. This source of power is lower in cost to the consumer than where electric current is developed from steam and the ordinary fuels or where it comes through the use of internal combustion engines.

With this line carrying the current, the Brenning Basin shallow field in Converse County, two pump stations on the Teapot and Kansas City trunk pipe line of the Sinclair interests, the Continental refinery at Glenrock, the Standard Oil Co. of Indiana's plant at Glenrock and the Big Muddy Field will have electric current available for the work required. Besides, this line would also furnish power for wildcat wells within reach of the line and this mode of operation is perfectly feasible as it has been tried with success in several instances. At present the Ohio Oil Co. is drilling a wildcat in Montana close to one of the large transmission lines of the Montana-Dakota Power Co., and the Ohio Oil Co. is using the current of the power company to operate its drilling machinery and all other work usually done with steam at a wildcat location.

The experiment of the Midwest Refining Co. in the Salt Creek Field has brought home to the oil operators the great saving of low-cost electric power over steam or internal combustion engines. The Big Muddy Field is even able to show a saving in cost of operation of the field, through the use of electric power generated in Casper by the Mountain States Power Co. with steam or internal combustion engines.

The new transmission line will be 85 miles long and run from the Guernsey

(Continued on Page 145)

DEEP TEST IN TURNER VALLEY STRIKES HEAVY FLOW OF WET GAS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, June 18.—In the Turner Valley Field southwest of Calgary, Home Oil Co.'s No. 1 deep test, LSD 10, Section 20-19-2w5, in the south end of the field, at a 4,560-foot depth has struck a heavy flow of wet gas, estimated at 6,250,000 feet a day. The well had been cleaned out to 4,540 feet and had resumed drilling, making 20 feet of hole additional when the flow was struck. The drill had apparently left the calcareous shales and penetrated about 10 feet into a quartzite sand, when the well blew in. The first rush lifted the tools but the drillers, Chris Bennetson and W. B. Nicholson, put the engine on high and hauled the tools out before any damage was done. For some time the gas pressure blew quartzite rocks over the derrick; the gas, after blowing heavily by heads three times, settled down to a steady flow, which measured 6,250,000 feet. The gas, at first dry, grew wetter, and it is estimated the well is good for 100 bbls. a day of crude naphtha.

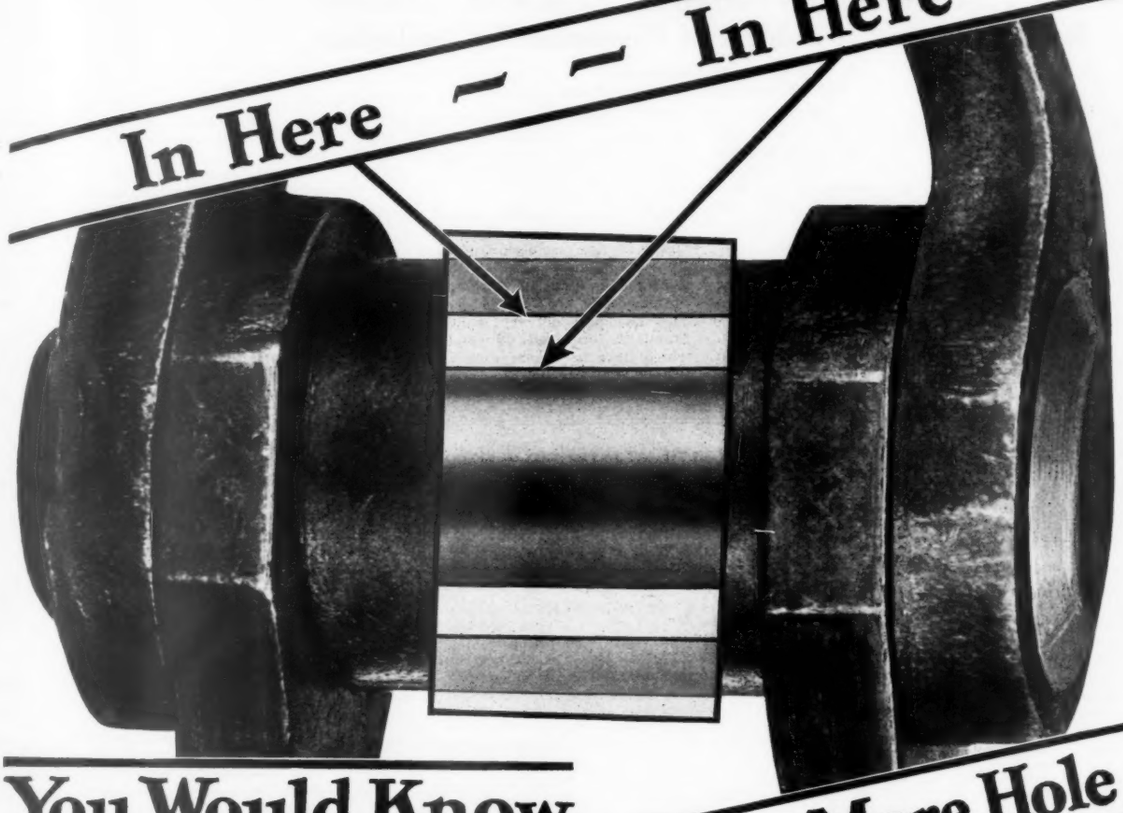
The well, which is in the south end of the field and 4 miles south and a little east of the Royalite No. 4 gusher, is in many respects dissimilar from the other Turner Valley wells. The wet gas comes from a quartzite sand with traces of lime instead of the dolomite limestone; the geologists are uncertain whether it represents the Kootenay sand or Fernie shale horizon. Where the Royalite wet gas shows 688 grains of sulphur the Home production carries 5 grains, it is claimed; the latter comes at 40 above zero temperature where the Royalite gas emerges at 22 below.

The Home No. 1 has been fitted with control head and the gas piped away from the rig. The well is producing through an 8¼-inch string, being the only string of this size in the field carried down to the production level. Home Oil Co. is a closed company financed by Vancouver, B. C., capital, and this is the first test in the south end of the field to get commercial production. It had a small commercial production of light crude, estimated 50 bbls. a day, in the Dakota sand. Home No. 1 is the fifth crude naphtha producer at depth in the Turner Valley Field, and brings the potential crude naphtha production of the field to between 950 and 1,000 bbls. a day.

On the western edge of the structure, Calmont Oils, LSD 2, Section 1-20-3w5, got a small show of dark green crude in the top of the Dakota sand at 3,735 feet. The test is being deepened and at 3,770 feet still showed colorings of oil in a dark formation. Following the strike a slight caving necessitated mudding off the hole, so the exact thickness of the oil sand was not determined. The Calmont is 4,750 feet west of the main axis of the Turner Valley structure, being

(Continued on Page 86)

If You Could See



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Second Horizon at Alamitos Possible

Core Taken in General Petroleum Edge Well in Selover Sand Indicating It Subject of Discussion by Geologists

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., June 18.—One of the most important developments from a production standpoint during the past week was the possible discovery of a second horizon in the Alamitos Heights section of the Seal Beach Field and, although nothing tangible has developed up to the present, a recent core taken by the General Petroleum in No. 7 Wasem, an edge well in the Selover sand, indicates there is a fair possibility of finding another producing horizon. The geological fraternity is evenly divided as to the probable existence of another sand deeper than that from which present production is being secured and, since this is still a debatable subject, the industry will have to sit back and await the outcome of the test to be made by the General Petroleum. The fact that the core sample extracted was rather lean mitigates somewhat against the development of another deeper and more productive sand, although, of course, a little more hole may perhaps prove more interesting.

Drilling operations in the Seal Beach Field were productive of several large flowing wells during the current week and another group of new wells is expected to be finished in the near future. The effect of these new producers on production is obvious and hence it is needless to say that the field production will react accordingly.

Acreage and Production

The California State Mining Bureau, which is maintained through assessments levied on oil and gas producers and oil land owners, required a total of only $163,000 to meet all expenses incurred during the current fiscal year, notwithstanding the fact that drilling operations throughout the State were exceptionally heavy. In prorating the assessment for next year one-tenth of the allotment allowed by law will be assessed against the proved oil land within the State and the remaining nine-tenths levied against the oil produced and the amount of natural gas produced and sold during the calendar year of 1926. For the purpose of assessment 10,000 cubic feet of gas is considered equal to 1 bbl. of oil. The total proved oil lands within the State of California is fixed by the bureau at 124,435 acres, of which 22,493 acres are owned by Federal State and city governments or for other reasons are not assessable. The 98,942 acres to be assessed will yield a total of $16,300. The total production of net oil in 1926 is given as 219,505,748 bbls. and the amount of natural gas produced and sold as 98,060,880,000 feet. The Mining Bureau's tabulation indicates that Kern County has by far the largest amount of proven oil land, this section being credited with 77,502 acres out of the State's total of 121,435 acres. Fresno County is credited with 14,665 acres, Los Angeles County with 10,041 acres, Orange County with 6,536 acres, Ventura County with 4,815 acres, Santa Barbara County with 7,394 acres, San Luis Obispo County with 402 acres and Santa Clara County with 80 acres. Perhaps the most interesting fact in connection with the bureau's figures for 1926 is shown by the production data upon which the current assessment will be levied. Los Angeles County, although it only ranks third in point of proven acreage, produced nearly half of the total crude oil output of the State during the year 1926 and yielded 39,978,190,000 feet of natural gas out of the State total of 98,060,880,000 feet. The gas production of the other counties varied considerably, Kern County yielding 23,986,940,000 feet, Orange County, 12,912,160,000 feet, Ventura County, 20,814,160,000 feet, Santa Barbara County, 326,260,000 feet and Fresno County, 43,170,000 feet.

Buying Settled Production

Notwithstanding the heavy overproduction situation and resulting low prices for crude and refined oils in California, operators continue to acquire settled production for the future. The latest transaction along this line was the conclusion a few weeks ago of negotiations between Standard of California and the Central Oil Co. whereby the former takes over the property and holdings of the latter in the Whittier Field, together with leaseholds and four producing wells at Huntington Beach.

The Central Oil Co., one of the pioneers in the Whittier Field and a large factor in the production of that district since 1900, disposed of 400 acres of its total fee holdings of 2,200 acres to the Standard for an unnamed consideration. The developed acreage acquired by the Standard contained 68 producing wells which have been averaging approximately 650 bbls. of 19.2 gravity oil daily for some time. Two small absorption plants were also included in the deal, one at Whittier and another at Huntington Beach.

A little over a year ago the Standard acquired the property, wells and holdings of the Home Oil Co. at Whittier and as a result of this latest transaction with the Central interests this company now practically controls the entire field. The only other companies having production in this district at present are the Whittier Crude Oil Co. and the Colorado Oil Co., the former's 10 wells yielding about 75 bbls. per day and the latter's 15 wells producing something like 100 bbls. each 24 hours. From the foregoing it will be noted that the Standard has a daily production of approximately 1,500 bbls. in the Whittier Field, as the American Petroleum Institute credited this district, including Rideout Heights, with an average of 1,863 bbls. per day during the month of April. The new production purchased by the Standard from the Central at Whittier does not have a very high gasoline content but it is quite rich in lubricating stock and is extremely valuable from a manufacturing standpoint because of its freedom from sulphur.

Seal Beach

The past week witnessed the completion of another series of new producers at Seal Beach, the majority of which were located in the Alamitos Heights, or so-called town lot area. George F. Getty was responsible for three of the new wells finished and this trio of new wells boosted production 6,251 bbls. per day. The largest of this group was No. 9 Alamitos, which came in flowing 3,125 bbls. of exceptionally clean 27.1 gravity oil daily from 4,870 feet. No. 8 Alamitos was somewhat smaller as it started off doing only 2,310 bbls. of clean 26.8 gravity oil from 4,880 feet. No. 10 Alamitos tanked 816 bbls. of clean 26.7 gravity oil during the initial 24-hour test following completion at 4,900 feet. George Getty has three more wells to finish at Alamitos Heights before closing his present drilling campaign. The Petroleum Securities, pioneer and discoverer of the town lot area, successfully finished three new producers and recompleted another. No. 2, on Bryant Lease "A." This well, originally brought in doing 1,175 bbls. from 4,718 feet last month, was returned to production early in the week flowing 1,440 bbls. of clean 27.3 gravity oil daily after being deepened to 4,880 feet. The new wells were No. 1 Brice, No. 1 Murphy and No. 4, on Bryant Lease "A." this trio adding 6,560 bbls. of new production. No. 1 Brice came in flowing 2,110 bbls. of clean 27.3 gravity oil daily from 4,885 feet, while No. 1 Murphy started off doing 2,000 bbls. of clean 27.2 gravity oil daily from 4,890 feet. No. 4 on Bryant Lease "A," was clocked at 2,450 bbls. of clean 27.4 gravity oil from 4,890 feet. The Pan American and Petroleum Securities, which are reported to be working on a 50-50 basis, still have 26 new wells and redrilling projects to finish before concluding present drilling operations in this area.

Early Tests

The California Petroleum Corp. finished No. 1 Lovell early in the week flowing 1,785 bbls. of 25.4 gravity oil daily from 4,950 feet and this well will be followed into production within a few days by four or five more, all of which are being prepared for early tests. The Marland, which has a rather intensive drilling campaign under way on the Bixby and Selover leases, finished Nos. 12 and 16 on the former property a few days ago and is scheduled to complete several additional wells during the com-

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year to Date	Same Time Last Year
Crude oil	235,871	33,696	214,817	30,688	3,684,699	6,233,613
Fuel oil	168,145	24,021	212,076	30,297	4,211,501	2,868,369
Diesel and gas oil	159,278	22,754	.....	.....	1,545,931	1,256,409
Gasoline	326,268	46,610	340,576	48,654	3,733,606	2,940,059
Tops	.....	.....	.....	.....	.....	149,906
Coastwise—						
Crude oil	575,735	82,248	477,238	68,177	12,150,279	11,399,487
Fuel oil	152,253	21,750	180,777	25,825	5,363,402	3,975,040
Diesel and gas oil	7,092	1,013	.....	.....	135,152	125,672
Gasoline	257,904	36,843	102,698	14,671	3,748,827	3,291,265
Kerosene	2,448	350	.....	.....	53,145	138,950
Tops	.....	.....	.....	.....	.....	251,082
Exports—						
Crude oil	.....	.....	.....	.....	1,400,029	1,770,715
Fuel oil	836,108	105,167	445,378	63,625	12,335,188	7,031,043
Diesel and gas oil	73,268	10,467	.....	.....	616,750	145,201
Gasoline	76,732	10,962	291,996	4,171	1,812,502	2,056,762
Tops	.....	.....	.....	.....	227,204	.....
Kerosene	.....	.....	.....	.....	1,017,144	1,013,804

TANKER SHIPMENTS, SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	415,555	720,377
Gasoline	.....	.....	.....	.....	961,581	608,848
Tops	.....	.....	.....	.....	.....	73,698
Lubricants	58,916	8,417	.....	.....	170,886	157,147
Coastwise—						
Fuel oil	.....	.....	156,455	22,351	2,535,586	2,629,495
Diesel and gas oil	.....	.....	.....	.....	173,724	.....
Gasoline	54,254	7,751	31,947	4,564	2,157,195	1,939,483
Kerosene	8,162	1,166	.....	.....	98,782	183,610
Exports—						
Fuel oil	148,109	21,158	75,162	10,737	1,148,325	1,156,401
Gasoline	.....	.....	.....	.....	1,672,011	959,669
Kerosene	.....	.....	.....	.....	535,647	912,311
Lubricants	.....	.....	.....	.....	9,120	18,051

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, Location—	S-T-R	Depth	Status
General Pet., No. 1 Guiberson, Potrero	35- 2-14	Rig	wait. devel.
Cal. Eastern, No. 1 Cypress, Potrero	27- 2-14	4,500	sd. sh. drilling
Associated, No. 1 Cypress, Potrero	34- 2-14	4,450	suspended
Associated, No. 2 Cypress, Potrero	2- 3-14	4,200	br. sh. drilling
Getty, Geo. F., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Getty, Paul, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
California Pet., No. 1 Sutton, Potrero	34- 2-14	Rig	wait. devel.
California Pet., No. 1 Armour, Potrero	35- 2-14	Rig	wait. devel.
Cole, Fred E., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dill Oil Co., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Walker, Fred, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dominguez Extension, No. 1 Compton, Dominguez	22- 3-13	5,530	suspended
Getty, Geo. F., No. 1 Tubbs, Rivera	25- 2-12	3,528	gr. sd. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	22- 3-14	4,128	suspended
Shell, No. 1 Mission, Sanu Fernando	4- 2-15	2,316	sd. sh. drilling
Sou. Calif. Drlg. Co., No. 1 Matteson, El Segundo	1- 3-15	4,870	fishing
Carr, O. P., No. 2 Foster, San Juan Capistrano	13- 8- 8	2,280	gr. sd. drilling
Cardiff Oil Co., No. 1 Oceanside, San Diego	24-13- 4	2,805	redrilling
O'Donnell, J. E., No. 1 Julian City, Los Angeles Co.	7- 4-14	4,920	abandoning
O'Donnell, J. E., No. 2 Julian City, Los Angeles Co.	7- 4-14	.....	location
Fisher & Co., No. 1 Rinz, Saugus	27- 5-16	416	sd. drilling
Southwest Pet. No. 1 Ramsauer, Watts	4- 3-13	1,191	sd. sh. drilling
Reliance Inv. Co., No. 1 Leuzinger, Los Angeles Co.	8- 3-14	1,125	gas—shut in
Shell, No. 1 Allec, Placentia	31- 3- 9	1,520	sd. drilling
Standard, No. 1 Olive, Orange Co.	17- 4- 9	Rig	rigging up
Standard, No. 1 Rindge, Palms	36- 1-15	Rig	in litigation

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Associated, No. 1 Smith, Kettleman Hills	12-23-18	2,043	suspended
Bolsa Chica, Well No. 1, Kettleman Hills	30-23-19	2,390	bl. sh. drilling
General Pet., No. 1 Burbank, Kettleman Hills	30-23-19	3,105	cleaning out
General Pet., No. 2 Oschener, Kettleman Hills	26-22-18	2,501	gr. sd. drilling
General Pet., No. 1 Dome, Kettleman Hills	4-24-19	Mtl.	building rig
C. C. M. O., No. 1 McGlashan, Kettleman Hills	17-24-19	3,671	gr. sd. drilling
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	2,275	gr. sd. drilling
Gilbert, W. M., No. 1 Barritt, Kettleman Hills	20-22-19	Rig	rigging up
Ahlburg Gas Co., Well No. 1, Kettleman Hills	7-23-23	Rig	standing
Milham Explth., No. 1 Kettleman, Kings Co.	2-22-17	3,615	hd. sd. drilling
Shell, No. 2 Berlywood, Moorpark	32- 3-20	3,750	hd. sd. drilling
C. C. M. O., No. 1 Hobson, Ventura Co.	22- 3-24	6,470	cemented
C. C. M. O., No. 1-B Hobson, Ventura Co.	16- 3-24	4,340	land pipe
C. C. M. O., No. 1 State, Ventura Co	17- 3-24	Rig	rigging up
Continental Oil Co., No. 1 Newhall, Ventura Co.	36- 4-18	2,595	testing
Continental Oil Co., No. 1 Brumham, Ventura Co.	22- 5-18	2,517	gr. sd. drilling
Milham Explth., No. 1 Sexton, Ventura Co.	19- 3-22	7,100	fishing
Standard, No. 1 Camarillo, Ventura Co.	29- 2-20	5,290	hd. sd. drilling
Standard, No. 1 Montalvo, Ventura Co.	17- 2-22	5,981	hd. sd. drilling
Petroleum Sec., No. 1 Diablo, Ventura Co.	4- 4-18	2,503	hd. sd. drilling
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	3,005	hd. hd. drilling
Star Petroleum, No. 1 Canet, Ventura Co.	13- 3-23	5,004	sd. sh. drilling
Richfield, No. 1 Janes, Ventura Co.	16- 5-18	2,420	gr. sd. drilling
Richfield, No. 27 Piru, Ventura Co.	35- 5-18	1,495	suspended
Milham Explth., No. 2 Buttonwillow, Kern Co.	8-28-23	4,662	cleaning out
Milham Explth., No. 3 Buttonwillow, Kern Co.	7-29-24	3,890	br. sh. drilling
Pacific Eastern, No. 1 Bakersfield, Kern Co.	6-30-28	4,075	recemented
C. C. M. O., No. 1 Quinn, Delano	23-26-27	1,723	recemented
Muroc Dev. Co., No. 1 Rosedale, Kern Co.	13-29-26	1,498	rebuilding rig
Standard, No. 1 Bacon, Kern Co.	27-28-30	3,153	br. sh. drilling
Petroleum Sec., No. 1 Aniotz, Monterey Co.	2-22- 9	2,381	hd. sd. drilling
Birch Oil Co., No. 1 Porterville, Tulare Co.	13-20-26	150	suspended
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	721	land pipe
Shell, No. 1 Cowell, San Mateo Co.	8- 6- 5	3,610	hd. hd. drilling
Shell, No. 1 Murphy, Petaluma	29- 5- 6	5,350	cemented
Shell, No. 1 Ielmorini, Sonoma Co.	14- 5- 7	300	sd. drilling
Thomas & Hammill, Well No. 1, Alameda Co.	16- 3- 3	1,100	hd. sd. drilling

ing week. The company's No. 12 Bixby, which came in flowing 1,142 bbls. of exceptionally clean 27.1 gravity oil daily from 4,750 feet, is flowing through a five-eighths-inch bean under a pressure of 650 pounds. No. 16 Bixby came in flowing 2,155 bbls. of clean 27.2 gravity oil daily from the Selover zone at 4,720 feet, the hole being finished with a 6¼-inch oil string including 170 feet of 100-mesh screen. E. J. Miley, discoverer of the Goleta Field in Santa Barbara County, and driller of the world's deepest oil producer at Rosecrans, recompleted his No. 1 Alamitos in the town lot area of the Seal Beach Field as a 2,740-bbl. flowing well, the oil testing 27.2 degrees. The California Eastern's No. 1 Judson is being listed as a 2,195-bbl. flowing well from 4,850 feet, the oil being clean and testing 27.2 degrees. The company also finished No. 1 Graves at 4,796 feet but since the initial production from this depth was unsatisfactory, some additional hole will be made. The Richfield Oil Co.'s No. 1 Bonner was an exceptionally live well and showed an unusually heavy gas pressure upon completion at 4,910 feet. Flowing through 2½-inch tubing it tanked 2,800 bbls. during the initial 24-hour test. The Superior's No. 1 on Fee Lease No. 1, completed a short time ago, is on regular production pumping 195 bbls. daily from 4,780 feet. The South Basin Oil Co. wound up the week with a 2,355-bbl. flowing well when No. 1 Copeland was turned loose from 4,872 feet.

Huntington Beach

The Standard, with three wells drilling on the Pacific Electric lease in the town lot area of the Huntington Beach Field, is making preparations to start four more in the very near future and as a result rig foundations are going in for Nos. 11, 12, 13 and 14. This lease has been one of the most productive pieces of property in the entire town lot area and since it has considerable drainage area it will probably also show a higher total ultimate recovery. The Superior Oil Co. is also quite active in the town lot area and this concern has four wells under way, No. 1 Jones having been spudded in early this week. In the older section of the field drilling operations have become more or less stabilized for some time and for this reason no great change in production is anticipated. The California Petroleum Corp. has staked a location for No. 4 Buck in the extreme northern part of the older field and this property, which at one time looked rather unfavorable, is producing approximately 500 bbls. a day from three wells. The Globe Lease & Royalty Co. completed its No. 2 Orange County Title at 4,347 feet but just previous to making a test for production the company found that the 8¼-inch had gone bad at 4,090 feet. This kink will be swedged out and in the meantime rig construction will get under way for No. 3 to be located 285 feet north of No. 1, which is a steady pumper at 200 bbls. a day.

Long Beach

The Shell successfully finished No. 7 Cresson in the deep sand at Long Beach and it is being listed as a 1,115-bbl. flowing well from 5,379 feet, the hole being finished with 5⅛-inch oil string carrying 400 feet of 80-mesh screen. The Shell has four additional drillers on this lease which have the deep sand as their objective but it will probably be another 30 days before any of this quartet will be in a position to make a bid for production. The California Petroleum's No. 1 Flower State, redrilled and deepened to the deep zone at 5,500 feet, failed to result in substantial production and the maximum output, 100 bbls. of 25.4 gravity oil daily, hardly warrants the additional hole made. Drilling operations in this field are rather limited in extent, although several wells are going after the deep sand at present.

Dominguez

The Union Oil Co. brought in a new well at Dominguez early in the week and incidentally increased its daily production 421 bbls. The company's latest completion was No. 18 Callender, drilled to 4,325 feet and finished with a 6¼-inch liner carrying 316 feet of 120-mesh screen. There are only two drilling projects in this field, both standing to the credit of the Union and, while the Shell has considerable undeveloped acreage, this company has temporarily suspended all development work in this area for the present. The California Petroleum Corp. cleaned out No. 2 Steinley at Santa Fe Springs which was returned to production pumping 195 bbls. of 28.4 gravity oil daily from 4,575 feet. There is only one drilling project under way in the Santa Fe Springs Field. This is No. 8 Howard of the Union, which should be completed within three weeks. At Inglewood the Standard cleaned out No. 17 on Vickers Lease No. 1 and returned it to production pumping 238 bbls. of 19.2 gravity oil daily. A check of drilling operations under way in the Rosecrans Field reveals that only one new well is being drilled, although there are some 8 or 10 workovers on the development charts of the various companies operating in that district. Drilling operations at Torrance are likewise limited with the Chanslor-Canfield Midway Oil Co. the only consistent developer due to its undrilled acreage.

Richfield

There were no wells actually turned loose in the Richfield district during the past week, although several potential producers are rapidly nearing completion. The Richfield district, in the northern part of Orange County, approximately 5 miles east of the town of Fullerton, has experienced a revival of work during the past several months and, judging by the number of holes under way, this field will continue active during the coming summer. The formations encountered are conducive to rather fast work and as a result new wells can be anticipated from time to time. As is generally customary in California fields, rotary drilling predominates, although during the early stages of development cable tools were frequently used to drill into the oil zone after the water string had been cemented. In the center of the field it is customary to land a conductor string around the 500-foot level and then set 11-inch just above the Chapman sand. In this manner the Chapman sand can be cased off with an 8¼-inch and wells completed in the Kraemer or second zone with a 6¼-inch if deep production is desired. All new wells in this field are finished by approved methods, that is, an oil string is run in previous to completion instead of bringing the well in barefoot. There is no excessive gas pressure to cope with at present and thus operators, as a rule, are not forced to bring in new wells prematurely. The Shell finished another new producer in the Fullerton, or Brea Olinda Field, early in the week and has two more in this area just about ready to be turned loose. The company's new well was No. 6 Pico, which came in flowing 1,030 bbls. of 26.2 gravity oil daily from 5,050 feet, the hole being finished with a 6¼-inch oil string carrying 1,640 feet of shop perforated.

Midway-Sunset

The outstanding development in the Midway-Sunset area was the completion of a 525-bbl. flowing well by the Standard Oil Co. in Section 5-11-23. This new producer, which came in from 3,428 feet, is a direct offset of the Obispo Oil Co.'s No. 7 on Section 32-12-23, which came in about two years ago with an estimated initial daily output of approximately 10,000 bbls. Subsequent to the completion of the Obispo's big well, some 10 or 15 holes were carried down to the brown shale without success, most of them having already been abandoned. The Standard's recent completion is practically the only well which has come up to expectations, as the California Petroleum and General Petroleum each drilled several dry holes in an effort to duplicate the success achieved by the Obispo's deep well. It is reliably reported that the General Petroleum has a deal pending for the Federal Drilling Co.'s holdings in Section 20 and the former will probably acquire this property by straight purchase. The Pacific American Oil Co. recently leased the Akridge property southeast of the Standard's Rass holdings, upon which the latter has developed small deep production, and development work should get under way within the near future.

George F. Getty completed another new well in the Kern front when No. 10 Lehnhardt was put on the beam at 2,052 feet, from which depth it started off pumping 95 bbls. of 18.5 gravity oil daily. The Wonder Oil Co. finished a somewhat larger producer when its No. 2 in Section 23-28-27 was completed at 2,114 feet. The initial production in this case was 232 bbls. of 18.9 gravity oil daily. Rig construction has already been started for No. 3. The Standard finished both Nos. 6 and 7 in Section 15-28-27 a few days ago, and they are being put on the beam at 2,173 feet and 2,170 feet, respectively.

Mount Poso

In the Mount Poso Field, located approximately 15 miles northwest of Kern River, the Modoc Petroleum Co.'s No. 1 in Section 36-26-28 cored a rather favorable showing at 1,930 feet and operators interested in this section are watching developments very closely, as this well may possibly extend the northern limits of the Mount Poso Field, although some are inclined to believe the well is located off structure. The Shell's No. 1 Glide in Section 1-27-28 is considerably deeper than the depth at which production was anticipated and, while this well showed some favorable indications, it is still a wildcat. The Elbe Oil Co.'s discovery well at Round Mountain is holding up very nicely at approximately 450 bbls. daily, but it will probably be closed in soon, due to the lack of pipe line facilities. Additional drilling will get under way soon. The Pan American is reported to have taken several leases about 10 miles south of the Round Mountain Field, but up to the present nothing definite has been determined and since few companies ever acknowledge leasing activities until everything is actually tied up, official announcement will probably not be forthcoming for another 10 days. The Standard is active in the area between Mount Poso and Round Mountain and that at least one wildcat is to be started in this section shortly is evidenced by a recent lease on 160 acres which calls for a monthly rental of $320 until actual work starts.

Ventura Avenue

One new well was completed in the Ventura Avenue Field and another is expected in within 10 days. The new producer added was the General Petroleum's No. 11 Barnard, which came in barefoot from the 6,500-foot level. This deep well, which shows a gas pressure of 450 pounds on the casing, tanked 1,295 bbls. of clean 29.1 gravity oil during the initial 24-hour test. No. 9 Barnard at 6,560 feet will probably be on the General Petroleum's next completion. The Petroleum Securities is practically assured of production in No. 1 Willett in the southern part and because of the heavy gas pressure encountered at 6,161 feet preparations are being made to land and cement a string of 6¼-inch around 6,025 feet. This company has three other drillers in this area, but they are not scheduled for completion until late in July. The Associated and Shell have both reduced drilling operations to an absolute minimum and, while each will undoubtedly finish a limited number of producers during the summer, new wells will be few and far between. The curtailment measures initiated in this field have reduced daily production from approximately 60,000 bbls. per day to 38,000 bbls., the actual restriction being about 20,000 bbls. daily. The pinching in of these wells has also resulted in a 30 per cent reduction in the production of natural gas.

Over in Santa Barbara County the Miley Exploration Co.'s No. 1 Spaulding, a deep test in the Goleta Field, recently passed the 4,000-foot level and, with no additional substantial showings logged since passing the 1,500-foot level, the outlook is not any too encouraging, although there is still plenty of time because of the relatively shallow depth of this hole. The Santa Barbara Oil Co., California Eastern, Clarence Berry, Barnsdall and Graham & Loftus are all actively engaged in this general area, although not all these wells are on structure. The Palmer Union Oil Co. successfully finished a new well in the Cat Canyon section of the Santa Maria Field a few days ago and this new producer, No. 13-A Stendel, started off flowing 520 bbls. daily from 3,414 feet. The initial output proved considerably larger than was anticipated.

Southern California Wildcats

The Potrero, or Cypress district, as it is sometimes designated, is still an unknown factor but something definite as to its potentiality should be determined

(Continued on Page 97)

DRILLING PROGRESS BUT NO WELLS COMPLETED IN EASTERN NEW MEXICO

By Special Correspondent

ARTESIA, N. Mex., June 18.—No completions were reported in the northeastern or southeastern fields of New Mex-Mexico in the week in review. Two new locations were made in the southeastern fields. Twenty-three wells are activiely drilling and there are three rigs up. Twenty-four wells are shut down. This shows an increase of two in locations, two in active drilling wells; one in rigs and a decrease of one in shut down wells and two in completions. The northeastern fields show no changes whatever. There are four wells drilling and five shut down, the same as reported last week.

In Colfax County, W. D. Weathers and others' No. 1 permit, Section 7-29n-24e, was drilling below 1,060 feet.

In Quay County, the Midwest Refining Co.'s No. 1 Wilson, Section 30-8n-31e, was drilling below 3,675 feet. The Gibson Oil Corp.'s No. 1 permit, Section 25-8n-32e, was drilling at 3,112 feet. The Ohio Oil Co.'s No. 1 Smith, Section 24-7n-29e, was still at 1,560 feet with casing trouble.

In Chaves County, the drilling status of wells was as follows: Buffalo-Roswell's No. 1 State, Section 25-11s-27e, was drilling at 4,137 feet; Texas Production Co.'s No. 1 Dunken Dome, Section 29-17s-18e, drilling at 3,660 feet.

In Eddy County, Texas Production Co.'s No. 1 permit, Section 25-16-31e, was drilling at 2,720 feet; W. A. Stone's No. 1 Knulick, Section 25-17s-26e, drilling below 1,480 feet; Kelly and others' No. 1 permit, Section 27-17s-27e, straight-reaming 10-inch hole, total depth 600 feet; Empire Gas & Fuel Co.'s No. 1-B permit, Section 34-17s-27e, drilling in lime at 2,450 feet; Skelly Oil Co.'s No. 1 permit, Section 22-17s-31e, drilling at 3,837 feet; Midwest Refining Co.'s No. 1 Terry, Section 15-18s-26e, drilling at 1,120 feet, hole full of water; Flynn, Welch & Yates' No. 4 Dunn, Section 10-18-26e, drilling at 2,340 feet. George Getty, Inc.'s No. 1 permit, SE cor. SW, Section 14-20s-29e, spudding at 150 feet; Marland Oil Co.'s No. 1 permit, Section 11-20s-30e, drilling at 2,670 feet with the hole full of water; George Getty's No. 1, NW cor. Section 33-22s-27e, machine moved in; Superior Oil Co.'s No. 1 Keck, Section 33-23s-28e, fishing for tools at 877 feet.

In Lea County, Texas Production Co.'s No. 1 permit, Section 34-17s-33e, was swabbing and cleaning out, total depth 4,988 feet. Inglefield & Bridge's No. 1 State, Section 34-17s-33e, drilling at 4,870 feet; Texas Production Co.'s No. 1 permit, Section 4-20-34e, ready to spud.

In Socorro County, Staley and others' No. 1 Chupadera Mesa, NE SE, Section 14-3s-6e, was drilling at 300 feet. Seipple and others' No. 1 Stone, Section 23-4n-1e, drilling at 2,630 feet; Perrin and others' No. 1 fee, Section 30-5s-1e, fishing at total depth of 2,042 feet.

In Torrance County, Randle and others' No. 1 Estancia, Section 20-6n-10e, was drilling at 3,683 feet; San Juan Coal & Oil Co.'s No. 1 Minerman, NW cor. SE, Section 32-7n-10e, was drilling at 2,552 feet (first report); Sinnok Brothers' No. 1 Dehart, SW cor. SE, Section 12-7n-7e, spudded in (first report.)

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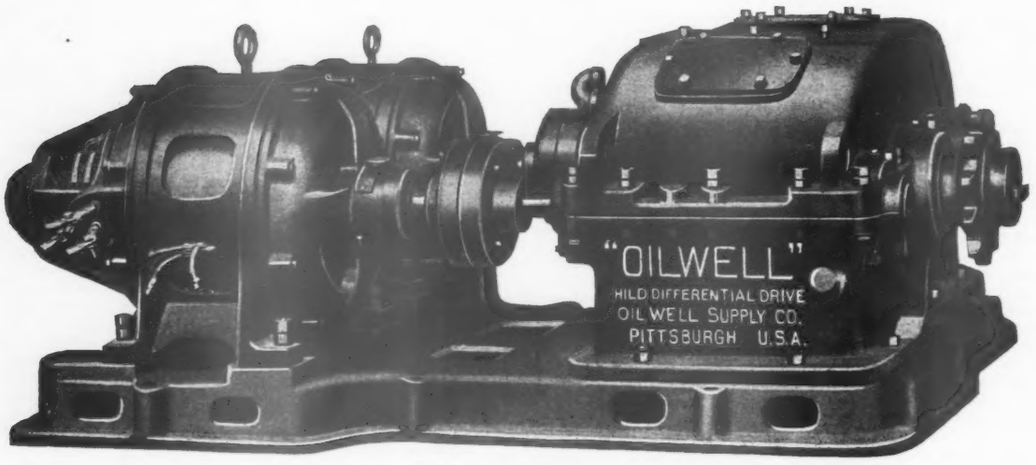

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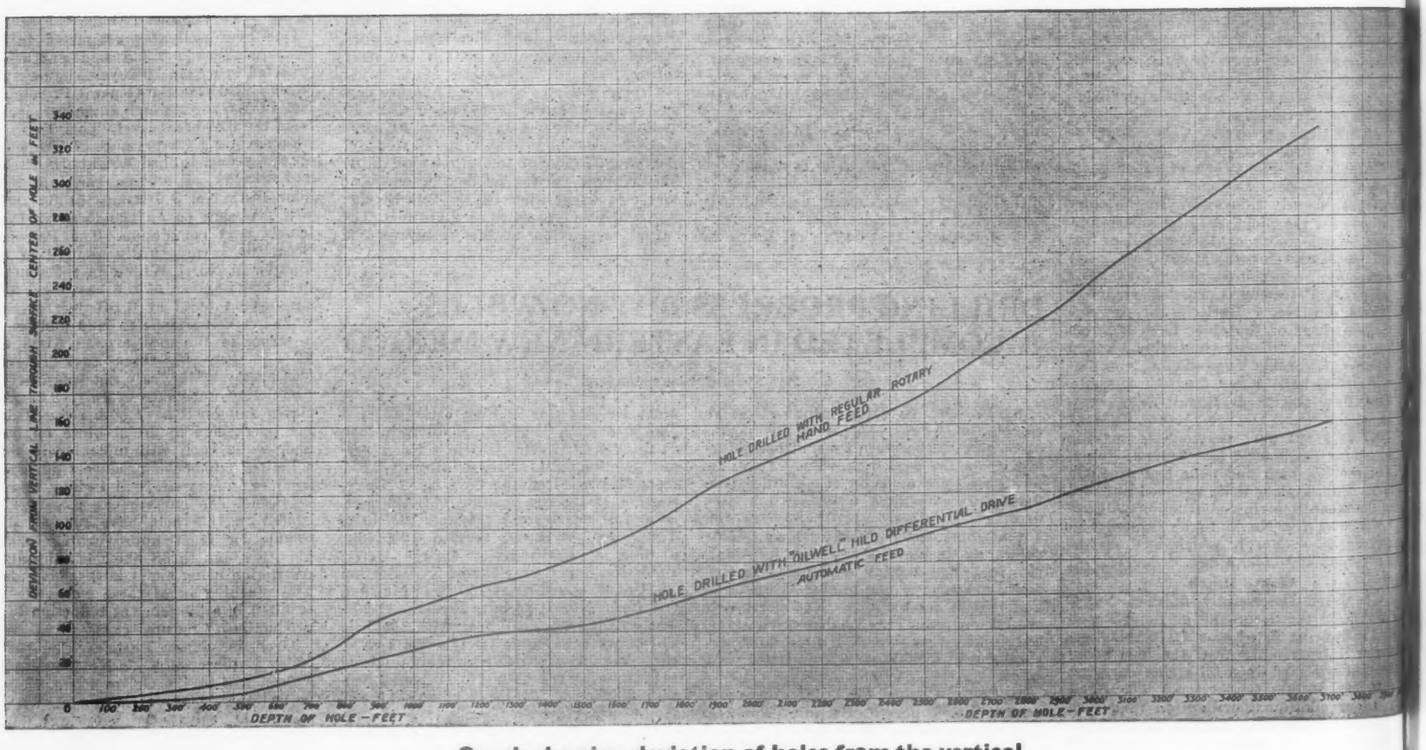
DEVIATION FROM VERTICAL LINE THROUGH SURFACE CENTER OF HOLE — FEET
DEPTH OF HOLE — FEET
HOLE DRILLED WITH REGULAR ROTARY HAND FEED
HOLE DRILLED WITH "OILWELL" HILD DIFFERENTIAL DRIVE AUTOMATIC FEED

Graph showing deviation of holes from the vertical
(Surveyed by the Alexander Anderson Method)

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In soft formations maximum drilling speed is maintained, and as the bit enters harder rock causing the drilling motor to slow down, the regulating motor immediately takes up part of the weight of the drill pipe, which removes some of the load from the bit and thus eliminates crowding, the frequent cause of divergence in rotary holes. The outfits are very popular with the drilling crews and are affectionately called "push-button rigs."

Enough holes have now been drilled with the automatic rigs to establish the following advantages: 1. A 50 per cent reduction in the number of "twist offs" of the drill pipe; 2. a reduction in wear on the drill pipe, tool joints and casing; 3. a decrease in upkeep expense on wells after being placed on pump; these advantages all being due to the straighter hole drilled.

The automatic outfit consists of a differential gear unit with a 75-hp. drilling motor, a 35-hp. regulating motor and necessary equipment. The motors are capable of developing 435 horsepower.

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** Extract from a paper by Robert R. Boyd in collaboration with Ward B. Blodget, presented at New York meeting, A.I.M.E., February, 1927.*

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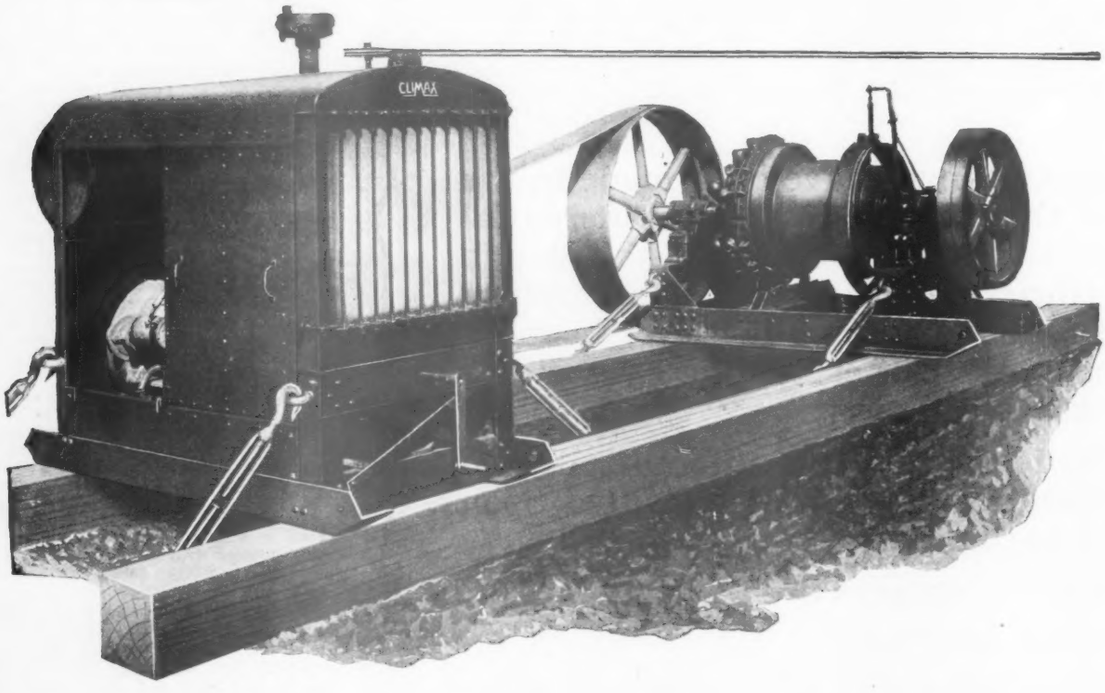

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Find Showing of Oil in Cole Well

Witherspoon Gasser in Medina County to Be Surrounded by Tests. Deeper Drilling in Luling Field

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., June 20.—Cole Petroleum Co.'s No. 36 Benavides, 4 miles west of the Cole gas field, the Carolina-Texas gas field 7 miles northwest and the Schott oil field 7 miles southwest, was opened up the past week and sprayed a little oil. It was completed six weeks or more ago, opening a new producing spot and in a new sand at 2,328-36 feet and was estimated at about 75,000,000 feet of gas. Since then No. 44, 1,500 feet on the south, has been completed at 2,322-29 feet and gauged 25,000,000 feet with rock pressure af 750 pounds and No. 43, 1,500 on the east, was a failure. It had a little oil but came in salt water and maybe an edge well. No. 47, 900 feet farther east from it, is drilling. Nos. 36, 43, and 47 are in Survey 412 and No. 44 is in Survey 411. While the amount of oil in No. 36 is small it is, of course, important. It is deeper than most anything in the field and deep drilling is all the talk in the Laredo district at this time.

Other than this showing of oil in the Cole well the greatest interest the past week was in Medina County where Witherspoon Oil Co., after wrestling for over a month with a wild gasser, had it nearly closed in and is starting four tests around it; and in Kleberg County where the Humble's No. 1 Kivlin, Block 4, Section 39, blew in at 3,070 feet, making a large amount of gas and some water and oil and when closed in and put on quarter-inch choke made in 24 hours 50 bbls. of oil and 1,000 bbls. of water.

Some interest is also attached to the announcement that California interests will drill a number of deep tests in the coastal area, the minimum depth of any to be 6,000 feet. Ford Turner, scout for the Pure Oil Co., at the recent meeting of scouts in Dallas in a paper published in The Oil and Gas Journal, June 2, page 99, said that only 30 tests had been drilled in all southwest Texas that have reached 4,000 feet or beyond. The fact is very few got much beyond that. Hence the announcement that a score of tests will be drilled in this area, some to go as deep as 7,000 feet, and in an area where Wallace Pratt of the Humble company in a paper read before the American Society of Petroleum Geologists, said tests can go to 10,000 feet without getting out of formations that could carry oil, is of more than passing interest. It will be very important if it proves to be true and the wells are actually drilled.

Medina County

The wild Witherspoon gasser, No. 2 Nixon in Medina County, blew out May 14 at 940 feet which is approximately the depth of the gas sand in the Adams Field, the nearest production of which is about a mile northeast of the Witherspoon well. The well has somewhat choked itself off and heavy mud, several tons of baryte and 1,000 sacks of cement put into the hole have about closed it off. No. 3 Nixon is already drilling 150 feet to the west of it and No. 1 L. J. Schmidt is being started 4,887 feet southwest of that and No. 1 Nixon on Survey 527 is being started about the same distance nearly due west. In addition another well will be started due east, so that the gasser will be surrounded with tests. Witherspoon is confident there is oil somewhere in the vicinity of the Adams gas field which, besides gas, has produced thus far nothing but small showings of oil in that horizon. Convinced there is oil there Witherspoon has got together a block of acreage on the southwest end of the gas acreage, has moved in more rigs and will try to be first to find the oil. His block is already of considerable size, taking in a few thousand acres and since the wild gasser seems to indicate that the field may extend that way his further wildcat tests will be of especial interest.

Kleberg County

Humble's No. 1 Kivlin at Kingsville that blew in earlier in the week at 3,070 feet is in a sand that, so far as information is available, is something new. However, there have been so many sands drilled into in that field that it is somewhat of a Chinese puzzle to keep them tabbed. There is 500 feet of open hole. It is an east offset to No. 3 Flato in the northeast corner of Block 9, Section 40, which blew out as a big gasser at 2,442 feet with the drill stem in the hole and 1,000 feet of the hole uncased and was finally finished that way and the gas turned into the line to Kingsville. On a quarter of a mile west and a little south No. 1 Flato, an old well, is making a small amount of oil on the pump at 2,930 feet which is the nearest thing to the new well.

Deepest Tests Drilling

The deepest tests in southwest Texas at this time are No. 1 Kelly and No. 2 Tiller in the Luling Field on the Caldwell County end of the field, being drilled by the United North & South Oil Co., and being drilled, it is understood, in an effort to find out what is underneath the schist. No. 1 Kelly is down at about 6,928 feet, drill stem estimate, and No. 2 Tiller is down at 6,390 feet. Both have been in schist and making but a few inches a day since 4,700 feet. The schist, so far as anybody can see, is the primary rock. The only thing of interest about the wells to the industry is that when the United North & South wildcatted that area, based on all the known facts up to that time it was advised that production was next to impossible because there was nothing to produce but the Edwards and it produced only water. But it produced oil. Now, drilling in schist, if the company gets production again, it will indeed have upset geological theory. Estimates are that the schist should be anywhere up to 8,000 feet thick at that point.

MIRANDO COMPLETIONS

Webb County

Cole Petroleum Co.'s No. 44 Benavides, Survey 411, Block 5, new gas field in Webb County at 2,322-39 feet, gauged 25,000,000 feet of gas with a rock pressure of 750 pounds.

K. & S. Corp.'s No. 3 Puig, Aviator Field, has been abandoned dry at 1,873 feet.

O. W. Killam's No. 3 Bruni, Albercas gas field, Block 64, has been abandoned dry at 3,715 feet.

Duval County

Ralston M. Talbott's No. 1 Margarite, Survey 4, has been abandoned dry at 1,607 feet.

Zapata County

J. H. Winch's No. 1 Butamante, Share 10, Block 8, lost hole and junked it at 1,751 feet.

Brooks County

The Texas Company's No. 2 Lasater, Survey 329, Gyp Hill, has been abandoned at 100 feet in gyp.

SAN ANTONIO COMPLETIONS

Live Oak County

Houston Oil Co.'s No. 3 Sellers, Muellin Survey, a gasser, at 2,322 feet has been completed, gauged at 15,000,000 feet.

Refugio County

Houston Oil Co.'s No. 10 Fannie Heard, Refugio Tracts, has been completed a gasser at 2,214 feet, gauged at 25,000,000 feet.

Luling Field—Caldwell County

Magnolia Petroleum Co.'s No. 8 Shanklin, H. Cottle Survey, at 2,214 feet, has been completed for 35 bbls. on the pump.

Rockdale Field—Milam

Noak Oil Co.'s No. 5 Seelke, T. J. Chambers Survey, has been completed at 912 feet for 15 bbls., and No. 6 Seelke in the same survey has been completed at 933 feet for 15 bbls.

Lavaca County

Steiman Brothers' No. 2 Steiman, located 100 yards from the No. 1, has been abandoned dry at 3,233 feet.

Bee County

W. S. Poole's No. 1 Chestnut, a location, has been abandoned.

Medina County

Witherspoon Oil Co.'s No. 2 Redus, Survey 92, has been abandoned dry at 1,122 feet.

NEW LOCATIONS

Bexar County

G. E. Ginter's No. 1 Gayle, C. A. Yoakum Survey, 2,750 feet to north line and 150 feet to east line.

Frio County

P. A. Neilan's No. 2 Blackaller, James Gouley Survey, skidding derrick over from No. 1.

Live Oak County

Houston Oil Co.'s No. 18 Cartwright made location and has spudded in test.

Medina County

Witherspoon Oil Co.'s No. 1 Nixon, Survey 527, located 800 feet to south line and 400 feet to east line; No. 3 J. P. Nixon, Survey 119, is location 150 feet from No. 2, the wild gasser; No. 1 L. J. Schmidt, Survey 526, is location 800 feet to north line and 400 feet to east line.

Gonzales County

L. P. Unkel's No. 1 Johnston, C. H. Jaeger Survey, is location in southeast corner.

Milam County

Noack Oil Co.'s No. 7 Seelke, T. J. Chambers Survey, is location 300 feet southeast of No. 6.

Michalk & Clark's No. 1 W. T. Johnson, J. J. Acosta Survey, is a wildcat test, 450 feet to northeast corner, and rig is being built. This well is a location, 4½ miles north of Thorndale.

Cole Gas Field—Duval

Cole Petroleum Co.'s No. 38 Benavides, Survey 10, Block 12, located 155 feet to northeast and northwest lines, has derrick up; No. 45 Benavides, Survey 22, Block 2, located 450 feet to southwest and southeast lines, is setting casing at 1,590 feet on sand. Maddox and others' No. 1 Bruni, Survey 1, is a location in Mariano Arispe grant. Houston Oil-Sun Oil Co.'s No. 4-A Benavides is a location on corners of Blocks 405-406-411-412. Houston Oil-Roxana's No. 1 Bruni, Survey 11, Block 18, is a location 150 feet to northwest and northeast lines.

Piedras Pintas Salt Dome

Humble Oil & Refining Co.'s No. 6 Walsh, Survey 185, is rigging up to rework hole, total depth 3,594 feet.

Randado Field—Jim Hogg

Magnolia Petroleum Co.'s No. 23 Merchants State Bank, Survey 415, located 1,070 feet to east line and 1,200 feet to north line, is drilling at 150 feet.

Kitselman & St. Albans Pool

Edward St. Albans No. 8 Lopez, Share 1, Block 7, located 1,058 feet to south line and 974 feet to west line, cored sand at 2,135 feet. K. & S. Corp.'s No. 57 Holbien, Survey 17, Block 40, located 330 feet to NE cor., is drilling at 2,800 feet.

Alworth Pool

Magnolia Petroleum Co.'s No. 22 Merchants State Bank, Survey 236, located

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MAVERICK COUNTY WELL SUPPOSED TO BE PRODUCING FROM TRINITY

By B. D. Stevenson

SAN ANTONIO, Tex., June 20.—Rycade Oil Corp.'s No. 1 Chittim in Maverick County, wrestling with a fishing job at 5,590 feet for the past six weeks, has cleaned the hole of the cable and all of the junk except the drill and it is expected this will be out soon. It mudded off 29,000,000 feet of gas and an estimated 100 bbls. of oil to do the fishing and is the deepest well in Southwest Texas that has any production, deepest not only in lineal feet, but also is getting it from the oldest formation producing anywhere in this area. It is supposed with little or no doubt to be producing from the Trinity. With the chances of saving this well greatly improved interest is revived in the possibilities of the Trinity sand, especially so with the E. L. Smith and others' well at Mexia, which was completed as a gas well in the Trinity at 5,750 feet, also showing a little evidence of oil. The wells are 350 miles apart but located about the same with reference to the Balcones Fault and in the same formation and at about the same depth.

H. H. Temple got hard chalk at 1,757 feet in Guadalupe County in No. 1 McAllister in the Edward Kellett Survey, northeast of Seguin, and is drilling at close to 1,800 feet. It is southwest of the nearest production in the Luling Field.

Caldwell Wildcat Test

Additional new wildcat tests of interest are two by The Texas Company, one of which will be in Caldwell County, in the Dale area at the northeast end of a structure that has already seen more than a dozen efforts to locate production. Reiter-Foster drilled one of the first wells in the territory and got one of the best showings. It penetrated serpentine, getting 100 feet of it but not enough oil to make a well. The Texas Company test will be known as No. 1 Beatty on the Nicholas Kelly Survey and will be 300 feet northwest of the southeast line and 150 feet northeast of the southwest line of the Beatty tract.

The Nicholas Kelly Survey is between the Squire Damon survey on the northeast and the Charles M. Canon Survey on the southwest. Every one of the more than a dozen tests drilled over a stretch of approximately 10 miles of territory has helped to prove the existence of a fault line.

The other new wildcat by The Texas Company will be in southern Gonzales County and is No. 1 Plowman in the Byrd Lockhart survey and is to be 631 feet northwest of the southeast line of the survey and 3,562 feet southwest of the northeast line of the survey. It is about 2½ miles nearly due west of where Martin Oil & Development Co. has had a well standing for some time at about 1,540 feet where it is supposed to have had a little showing of oil. As worked by one geologist there are two fault lines between the two wells.

Duval County

National Oil Co.'s No. 1 Ball, Ball ranch, Block 16, located 450 feet to north line and 150 feet to east line, derrick blown down in recent storm, and moving in material to build another. Ralston M. Talbott's No. 1 Margarite, Survey 4, located 2,500 feet to northwest lines and

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Continue Drilling at Pleasant Hill

Recent Completions Small and Short Staying Quality. Two Wildcat Plays in Union and Along Flexure

By Neil Williams
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., June 20. — The past week failed to produce any developments of importance in the North Louisiana - Arkansas district and any interest there might have been was principally local and centered chiefly in scattered wildcats, several deep tests and in a few areas where there was a semblance of leasing and drilling.

With the spasmodic drilling and almost general inactivity prevailing, operators as a whole are not expecting any additional fields of importance to be uncovered in this division soon unless some of the deeper tests now under way bring to light a new source of production.

Even the new Pleasant Hill Field of northern Sabine Parish, Louisiana, is not looked upon lately with as much favor as it has been in the past and the edge of interest there has been taken off since recent completions have been small wells, and since none seems to have staying qualities.

Drilling, however, continues active in the Pleasant Hill district, and several other tests are expected to be completed in the near future. At present there are nine wells producing only 635 bbls. of oil daily, or an average of less than 70 bbls. to the well. Very little leasing activity has been manifest there in the past few weeks, although several desirable acreage blocks are available.

Two Wildcat Plays

At least two other wildcat plays are being watched by operators, although from present indications whatever production is uncovered will not be of a sensational nature. These plays are centered around Ohio Oil Co.'s No. 1 Crain, Section 1-17-14, Union County, Arkansas, and along the Angelina-Caldwell flexure in North Louisiana, chiefly in Winn, Grant and LaSalle Parishes.

There was nothing new of importance in either during the week. The Ohio Oil Co.'s No. 1 Crain at the close of the week had not been completed and its production learned. Work at this well has been directed toward putting it on the pump, the hole standing better than 1,200 feet of 35.3 gravity oil and 450 bbls. of salt water.

This well, which is 7 miles north of the Lawson-Urbana gas field and 5 miles northeast of the East El Dorado Field, marks the east point in a triangle with the East El Dorado Field and the Norphlet area of the Smackover Field. Although the sand, encountered at 3,004-14 feet, if the same as found by several tests in the El Dorado and East El Dorado Fields, is considered comparatively short-lived, and although the larger companies as a rule are not taking an active interest, leasing continues fairly brisk. The leasing is confined chiefly to El Dorado operators, including E. M. Jones, Marine Oil Co., Garrett-Modisette Drilling Co.

However, the Sun Oil Co. has taken a couple of tracts and the Ohio Oil Co. has leased considerable additional acreage both to the northwest and also southeast to the Lawson-Urbana Field. Prices for the acreage are ranging from $15 to $125 an acre, it is reported, with the highest price being $1,600 for 9 acres in Section 36-16-14. One drilling contract has been made on an 80-acre block in the W half of the SW Section 31-16-13.

Angelina-Caldwell Flexure

The Angelina-Caldwell flexure, which extends northeastward-southwestward through North Louisiana, is the scene of a drilling campaign, chiefly in Winn, LaSalle and Grant Parishes. This territory so far has failed to produce any important wells, the completions to date having been small pumpers with lots of salt water.

Considerable interest also is attached to tests drilling on or in the vicinity of salt domes in Bienville and Winn Parishes. Several companies are in the field attempting to locate additional salt domes. Shaffer Oil & Refining Co., which had plans under way to do seismograph work in Bienville Parish, has had to abandon these because of the inability to obtain shooting options on some acreage. The Gulf Refining Co., however, has two torsion balance machines operating in LaSalle Parish.

Of interest the past week was the deal whereby The Texas Company acquired a half interest from the Arkansas Fuel Oil Co. in an 8,000-acre block in Calhoun County, Arkansas, and also a half interest in a test being drilled on the block. The block centers around Section 2-13-14, the location of Arkansas Fuel Oil Co.'s No. 1 Stout.

Co-operative Drilling

The deal is another instance in this district of the trend toward co-operative drilling of wildcat blocks instead of the various companies buying protection acreage. One of the most interesting tests in this division is operated on the co-operative basis, being the Humble Oil & Refining Co.'s No. 30 Bliss and Wetherbee, Section 15-19-11, Bellevue Pool, Bossier Parish.

With several large as well as small companies sharing, this test is making a deep test in that field. Now down past 2,656 feet in a shale formation, this test picked up the Glen Rose formation of the Trinity horizon at 1,970 feet, the same formation which before had not been reached in North Louisiana under 2,800 feet in the Pine Island Field of Caddo Parish. Although Pine Island wells produce at this level while the Humble test did not, the latter is being drilled on for a deep test of the Trinity horizon, and if it proves or disproves the existence of the true Trinity sand in North Louisiana, it will be a notable achievement. The true Trinity sand has not been touched in northwestern Louisiana and there is considerable dispute among geologists as to whether it exists here. Individual companies and operators have shown a hesitancy toward drilling in search of the true Trinity but if it were really known to exist intensive efforts probably would be made by many companies to find production in it.

Eleven deep tests, those below 3,500 feet, are drilling in North Louisiana, and all are being watched for what possibilities of development they might open.

Of interest the past week has been Palmer Corp.'s No. 4 Bossier L. & L. Co., Section 9-16-11, Bossier Parish, in the Elm Grove vicinity. This test drilled out the 6-inch plug at 4,150 feet, but now is down below 4,200 feet. Dixie Oil Co.'s No. 10 Slattery, Section 27-21-15, Pine Island Field, is bailing casing at a total depth of 3,877 feet, and Gulf Refining Co.'s No. 13 Tyson, Section 14, has cemented 6⅝-inch casing at 3,710 feet. The deepest test in North Louisiana is Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11, DeSoto Parish, which has been fishing for lost cable tools since March.

Alabama Tests

Although skeptical, North Louisiana operators have been keeping an eye on Alabama, where several shallow tests are reported to have had small oil showings. Fehlman & Hindman of Houston, Tex., have leased a 22,000-acre block in Monroe County, Alabama, in Townships 9n and 10n and Ranges 10e and 11e. They have made a location for a 3,000-foot test in the center of the SW Section 8-9-11e.

Production Increase

Production in the North Louisiana-Arkansas division increased the past week 1,785 bbls. in the daily average, a total daily average output for all fields of 161,900 bbls. being recorded. Production by fields was:

North Louisiana	
Caddo light	10,150
Caddo heavy	4,700
Homer	5,065
Haynesville	7,770
DeSoto-Red River	4,050
Elm Grove	680
Bellevue	1,825
Cotton Valley	5,750
Urania	9,130
Pleasant Hill	635
Total	49,315
Arkansas	
El Dorado	6,300
Lisbon	3,000
Smackover light	11,015
Smackover heavy	88,560
Stephens	1,400
Nevada	1,460
Bradley	150
Total	112,585
Total both states	161,900
Total last week	160,115
Increase	1,785

Summary of Operations

A summary of operations in the district included 25 completions, 6 tests waiting on standard rigs, 12 temporarily abandoned, 182 drilling, 15 rigs, 36 derricks and 8 locations. The best completions during the week were in the Irma Pool of Nevada County, Arkansas, which added three good wells, making a total of 335 bbls. of new production. The total new production from the 10 oil wells completed was 526 bbls.

The Monroe district came to light during the week with two good gas wells, one in Ouachita Parish making 24,000,000 feet daily, and one in Morehouse Parish good for 25,000,000 feet.

The wildcat Richland Parish added a late completion in Ruston Drilling Co.'s No. 1 Earle, Section 5-16-6e, which is making 20,000,000 feet daily from a broken formation at a total depth of 2,445 feet. The first gas show was encountered at 2,360 feet. The test had broken formations beginning at 2,330 feet.

Detailed operations in proven fields were:

NORTH LOUISIANA

Bossier Parish

Humble Oil & Refining Co. is drilling at 2,545 feet in hard sandy shale in No. 10 Bliss & Wetherbee, Section 15-19-11, Bellevue Field. This is the only active test in proven fields of Bossier Parish.

Caddo Parish

Arkansas Natural Gas Co. is drilling at 2,186 feet in No. 8 Gayle, Section 30-16-12. This company has started drilling on No. 2 Lane, Section 13-21-15, and is down past 100 feet. Askew and associates are drilling in hard lime at 2,500 feet in No. 1 Elliott, Section 12-19-16. J. R. Bahan is down past 1,000 feet in No. 3 Stringfellow, Section 19-17-16, Waskom Field. The 10-inch casing was cemented at 100 feet.

Bayou State Oil Corp. drilled out the 10-inch plug cemented at 60 feet in No. 30 Hoss and now has reached a depth of 780 feet. J. W. Burton has abandoned No. 16 Bunker & Tompkins, Section 18-21-15, after encountering salt water at 1,056 feet. Dixie Oil Co. has abandoned as dry at 1,740 feet No. 88 Robertshaw, Section 13-21-15. This company's No. 5-B Files & Mabry, Section 14-21-16, is drilling past 2,390 feet. No. 8 Fitzsimmons, Section 14-21-15, is drilling at 3,148 feet. This company's No. 2-A Noel, Sec-

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LOUISIANA-ARKANSAS WILDCATS CONTRIBUTE ONLY THREE GAS WELLS

By Neil Williams

SHREVEPORT, La., June 20.—Three gas wells, one of which turned to salt water, were all wildcat drilling contributed to the North Louisiana-Arkansas oil district the past week. Otherwise, wildcatting was extremely unfavorable with seven tests dry or abandoned.

Ruston Drilling Co.'s No. 1 Earle, Section 5-16-6e, Richland Parish, making 20,000,000 feet daily; Magnolia Petroleum Co.'s No. 1 Dodson, Section 15-23-12, Carterville area of Bossier Parish, 30,000,000 feet, and Sun Oil Co.'s No. 1 Thompson, Section 10-18-13, Lawson Field, Union County, Arkansas, were the gas wells. The latter was completed for 20,000,000 feet of gas from sand at 2,643-57 feet but now making salt water.

The fact that salt water encroaches rapidly on wells in the Lawson-Urbana Field, is an unfavorable condition in the development of that district. However, an interesting test is under way there in W. D. Wingfield's No. 1 Hadley, Section 2-18-13. This test is the furthest north in that vicinity and operators are hopeful it will miss the salt water trouble and possibly encounter good oil pay, which many still believe exists somewhere in that locality.

Among the abandonments of the week were two tests in the Lawson-Urbana district. One of these was Marine Oil Co.'s No. 1 Winn, Section 11-18-13, completed last February making 50,000,000 feet of gas daily. The latter part of May this well suddenly stopped flowing. It then was drilled from a depth of 2,075 feet to 2,711 feet where it tested salt water and was abandoned.

In LaSalle Parish, Louisiana, Tunica Petroleum Co. completed No. 28 L. & A., Section 9-7-2e, pumping 400 bbls. of salt water with a show of oil from a depth of 769 feet. This is one of many shallow wells which this company is drilling in this vicinity, several more of which are to be placed on the pump.

Atlantic Oil Producing Co. made a test in its No. 1 Couch, Section 23-17-20, Columbia County, which showed a salt water flow. This test is drilling around 3,000 feet. In this county, Golquitt and associates have completed blocking 3,000 acres in the center of which is Section 27-17-21, where a test will be drilled.

In Winn Parish, Louisiana, H. L. Hunt's No. 1 Tremont, Section 27-10-1w, has tested dry at 1,588 feet and is shut down waiting orders. This test is on what is known as Brown's saline, and has been watched closely by operators in that vicinity.

Wildcat Operations

Wildcat operations during the week were:

NORTH LOUISIANA

Bienville Parish

W. E. Hicks and associates' No. 1 Hodge Hunt, Section 21-16-5, has been shut down after drilling to a depth of 864 feet. Kimbrough and associates' No. 1 Cargle, Section 27-15-8, also has been shut down waiting on a core barrel. It is at a depth of 1,670 feet. Tunica Petroleum Co. is down 1,700 feet in No.

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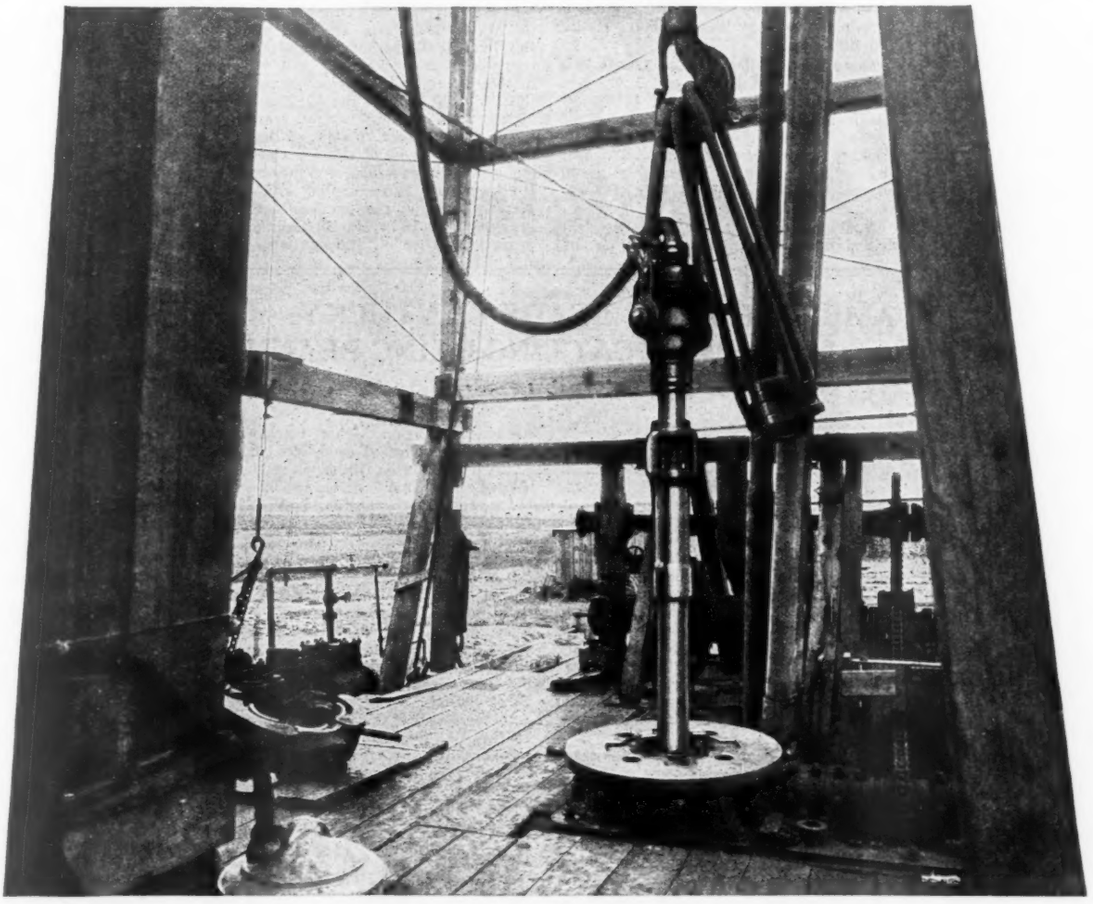


TIMKEN *Tapered Roller* BEARINGS

Wildcatting Prospects in Indiana

State Has 19 Completions in Past Week, Lima Field None and Central Ohio 1 Pumper and 1 Dry Hole

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, June 20.—Twenty-six completions were reported from the Central West Field during the week and numerous advance wells were brought in with little result. The only division of the Central West that failed to report any completions was the old Lima Field of northwestern Ohio where little work is being done at this time. Central Ohio area announced only the bringing in of two, one being a very small pumper and the other a dry hole. Illinois had five new wells, while Indiana had a big development with 19 completions, mostly on the wildcat order and several fairly good gas wells were developed in out of the way sections of the State.

Plans are being made for a more active development in many parts of Indiana, as up to the present production has come only from the Trenton Rock Field of the State and a few counties in the southwestern portion. Some 25 years ago a small field was opened in Jasper County, in the northwestern part, the oil being a natural lubricant which was marketed in Chicago, and for a number of years nothing has been done there in a way of making any effort to extend the old producing lines. There are many parts of the southern portion that also look inviting and when weather conditions improve and the crude market takes an upward trend, a large amount of wildcatting will no doubt be done. The present season has been a disastrous one for operations on account of the heavy rains and high waters in all sections; then the lowering of crude prices had its effect on field work to a large extent, as the drilling of territory that promises only a few barrels per well does not appeal to the oil man used to bringing in large producers.

Indiana

The best find for the week in the Indiana Field was made by Henry Skidmore when he drilled in his test on the Jacob Williams farm, in Section 2, Madison Township, Pike County, west of Petersburg, and slightly in advance of production. The pay sand was found at 1,035 feet and after drilling 6 feet in the sand, the well produced actually 40 bbls. the first 24 hours, although some reported it at 75 bbls. In Washington Township, same county, A. B. Bement's test, on the Pike County farm, Section 13, Washington Township, is a 10-bbl. pumper and a slight extension to production. H. D. Smith and others drilled a test in the southeast corner of the F. A. Scherolucker farm, in the northeast quarter of Section 18, Jefferson Township, same county, getting a dry hole at a depth of 1,202 feet. In Madison Township, the Ohio Oil Co. pulled out and abandoned No. 4 on the Dan Snyder farm, Section 36, and the Ohio Oil Co. and Bement did the same with No. 4 on the C. Burkhart farm, Section 35.

Carter and others drilled a wildcat on the J. and A. Yeager farm, Section 26, Union Township, Gibson County, getting no indications of either oil or gas. In Barton Township, same county, the Gem Oil Corp.'s test, on the S. M. and W. S. Ferris farm, Section 5, has been drilled in and makes a fair showing, but no estimate can be made of its value until put on the pump.

In Daviess County, Ruble and Collier drilled a test on the Ruble farm, Section 31, Barr Township, resulting in a duster. In Reeves Township, same county, Bell Brothers, Phipps and Blosser's No. 3, on the Pat Nolan farm, Section 13, is an 8-bbl. producer, with No. 4 drilling. In the Geiger Pool, Veale Township, Phipps and Blosser's test, in the southwest corner of the Otto Barber farm, in the southeast quarter of Section 22, was dry at 1,215 feet.

In the northern part of Sullivan County, just south of the Vigo County line, the Ohio Oil Co.'s test, on the M. J. Hale farm, Section 4, Fairbanks Township, and east of the producing wells on the Thomas farm, is reported a dry hole. The Sisosi Oil Corp.'s second well, on the J. R. Thomas farm, Section 6, same township, is reported showing a little oil at a depth of 2,105 feet. No. 3 is drilling.

In Vigo County, in Prairie Creek Township, and in the southwestern part of the county, the Ohio Oil Co. is drilling a test on the William Collins farm, west of the town of Middletown, near Sullivan County line. Northeast of Farmersburg, in Linton Township, same county, the Midriver Oil Co. is drilling a wildcat on the Therman McDonald farm, about midway between Terre Haute and Sullivan.

The Murphy Oil Co.'s No. 5 well, 600 feet from the south line and 1,200 feet from the east line of the W. E. Harrison farm, in the northwest quarter of Section 30, Harrison Township, Knox County, tapped the sand at 1,222 feet and went 11 feet in, shooting with 40 quarts, the well doing 14 bbls. the ensuing 24 hours.

A duster was drilled in a wildcat drilled by the Penn-Indiana Oil Co. on the Ayer farm, in Clay Township, Spencer County, west of the town of Chrisney, near the central portion of the county in the extreme southern part of the State, and only a few miles north of Owensboro, Ky.

Henley and others drilled a wildcat in the southwest corner of the A. Dimmitt farm, Section 1, Greer Township, Warrick County, also in the southern part of the State and west of Spencer County, at a depth of 1,464 feet.

East of Cannelton, in the southern portion of Perry County, just north of the Ohio River where it makes a horseshoe bend at the town of Tobinsport, Chancellor and others drilled a test on the Anna Weatherhold farm, to a total depth of 1,255 feet which was pronounced dry, although there was a slight showing of oil at a shallow depth of 500 feet. Perry County lies just east of Spencer County.

In Boone Township, Harrison County, in what is known as the Corydon gas belt, and west of Louisville, Ky., the Louisville Gas & Electric Co. has brought in two gas wells from the shale formation around 700 feet. One is on the Nettie M. Russell farm and the other on the Ida M. Liebert farm. Reports are that quite a development will be made in this county, which is northeast across the Ohio River from the old gas field in Meade County, Kentucky, of years ago.

In the southern part of Lawrence County, southwest of the town of Mitchell, almost direct east of Vincennes and southwest of Indianapolis, and almost directly east of the old Loogoottee development made in Martin County, some years ago, when oil and gas were found, unknown parties have brought in two wells, both reported as showing a nice gas volume.

An important wildcat well is under way, west of the town of New Market, toward the southwestern part of Montgomery County and to the southwest of Crawfordsville, where W. S. Peck and others are drilling on the W. L. Lee farm.

Between Indianapolis and Muncie, in the northeastern portion of Hancock County, in Brown Township, just south of the town of Wilkinson on the C. C. C. & St. Louis Railroad, Dr. Charles Titus found what is reported to be a fair gas well on the T. Overman farm, the gas being found in the Trenton rock, the total depth of the hole being 1,010 feet. Harry Davis is preparing for the drilling of a well on his own farm, to the northwest of Wilkinson.

North of Veedersburg, in Troy Township, Fountain County, in the western part of Indiana, and not far from the Chicago & Eastern Illinois Railroad, a wildcat is being drilled by Pennsylvania parties on the William B. Coffing property.

North of Pendleton, in the southern part of Madison County, and southwest of Anderson, the Pendleton Natural Gas Co. is reported to have found a fair gas well on the Charles Somers farm, at a depth of 900 feet, the gas being in the Trenton sand.

In the northeastern part of Johnson County, near the hamlet of Rocklane, and southeast a short distance from Indianapolis, unknown parties are reported around close to 1,350 feet at a test on the Means property. In the central part of the same county, near Franklin, the Universal Development Co. is reported at a depth around 2,200 feet on the McQuiston farm.

Reports are that two wells have been drilled in Kosciusko County, northwest of Fort Wayne and southeast of Plymouth. These wells are said to be in Plain and Prairie Townships, and far removed to the north of the old Trenton Rock Field. The value of the wells are not known at this time, nor the exact location of either, or the owners.

Northeast of Fort Wayne, in Maumee Township, Allen County, Cyrus Shoemaker and Jess Cochran are drilling wells on the C. Rekeway and I. C. Gerber farms. This is to the northwest of the Payne Field of Paulding County, Ohio.

The Roberd-Herman Oil Club drilled a test on the Jacob Rinker farm, 5 miles to the southwest of Hartford City, in Section 7, Washington Township, Blackford County, that is reported good for 30 bbls. from the Trenton sand at 1,027 feet. Same parties are now drilling on the Frank Jones farm, same vicinity. Masters and Swain are drilling a well on the Gerard farm, same county.

Word from Dad Rendall, well-known contractor of Berne, Ind., states the second well of the Reckard Petroleum Co., 200 feet from the south line and 660 feet from the east line of the Stengle & Craig 90 acres, Section 36, Monroe Township, Adams County, is one of the best looking wells drilled of recent date in the Berne Field, but owing to high water the owners have been unable to tube and pump the well. That part of the State recently had a regular cloudburst and flooded the lease. Other wells will be started as soon as material can be put on the lease. Unknown parties are putting down a test on the Cross farm, in Jefferson Township, same county. Spindler and others are drilling

(Continued on Page 124)

AMBROSE POOL LEADS KENTUCKY; MUCH WILDCATTING BEING PLANNED

By Whit
Staff Correspondent, Kentucky-Tennessee

HARTFORD, Ky., June 18.—Were it not for the good results obtained by the drill in the Ambrose Pool a few miles northwest of Hartford, Ohio County, the week's report would show but little in Kentucky or Tennessee. Eastern Kentucky failed to report any new completions, nor did any portion of the Tennessee fields, due in the main to the country being impassable on account of high water that has done large damage to property along the Cumberland, Big Sandy, and Kentucky Rivers and other streams passing through the hills. It will be weeks before the country can be cleaned up and in shape to make progress with work in many of the producing counties.

Only three counties in Kentucky are listed with completions since the last review, Ohio, Daviess and Barren Counties, all in the western division. The Ambrose Pool, of Ohio County, shows the wells of large size, the best producer being No. 5 on the Rodney Taylor lease for 200 bbls.; the next being No. 3 on the George Early farm for 160 bbls.; then No. 6 on the Mary J. Elmore farm, for 100 bbls. Daviess County is also credited with a 50-bbl. producer in No. 6 on the Nannie Brown farm, in the vicinity of Ellis Station.

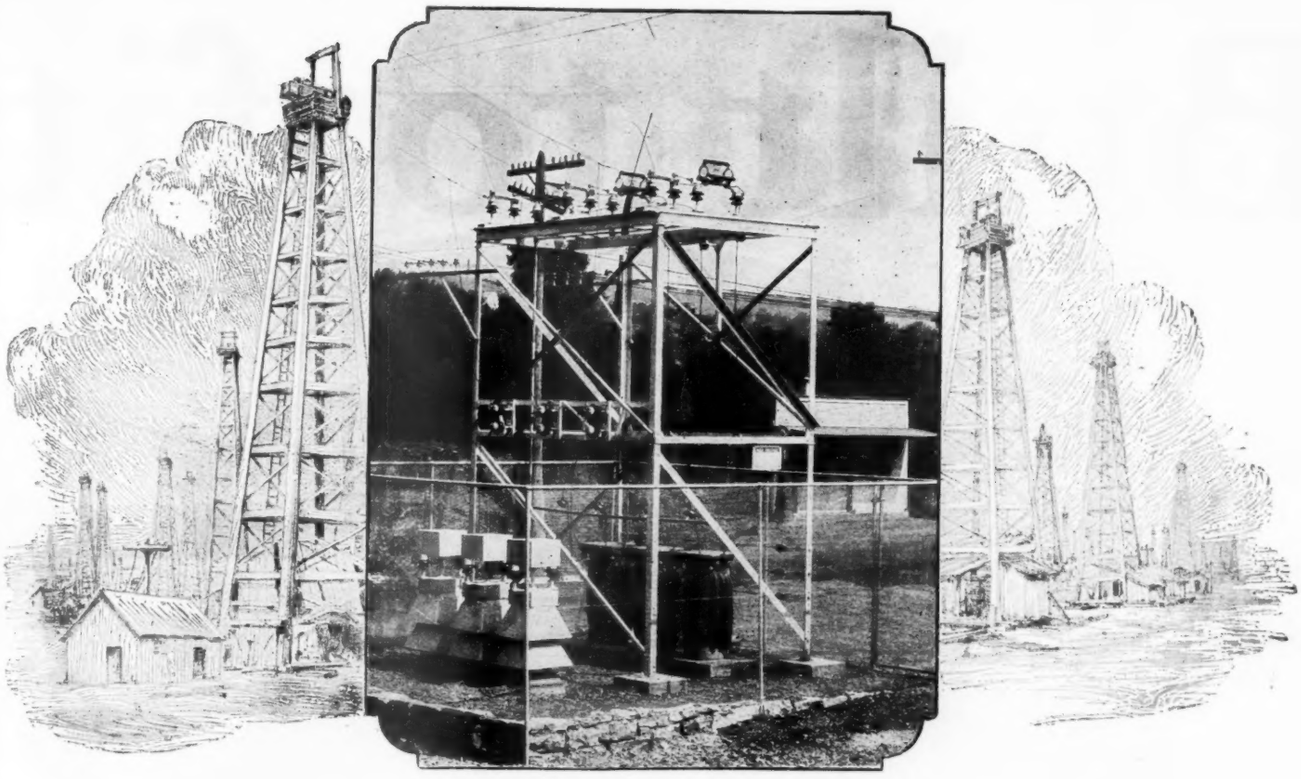
Indications point to a lot of wildcatting being done during the present season, as operators feel they can better their business by looking for new production than drilling entirely within what is supposed to be defined areas, and in that manner they will be in better shape to enjoy a higher market when advances in price of crude are made.

Tennessee Wildcatting

Word comes from Dickson, Dickson County, western Tennessee, that J. W. Oliver of Chicago and some of his associates have visited the county the past few days making preparations to put down a number of test wells. A drilling outfit is expected to reach Dickson within a few days and work on a test will start as soon as the required acreage can be secured, was the announcement of Mr. Oliver. These parties have two or three locations already in view, one being near Pond Switch, 3 miles west of Dickson. Another location is in the northern part of the county in the Barton's Creek neighborhood. Contracts already have been let for at least three wells to be put down to the depth required by the geologists in charge. Local people who have been interested in oil development in this county in the past are quite jubilant over the prospects of further testing out of the oil and gas prospects. Many years ago oil was found in Dickson County and chances are still good for the opening of commercial production.

The western portion of Clay County and the eastern part of Macon County are in for an active drilling campaign as soon as the country is in shape to move material over the roads which are fairly good from Scottsville, Ky., to the Clay County, Tennessee, Field. Leasers have been busy in the parts of the two

(Continued on Page 106)



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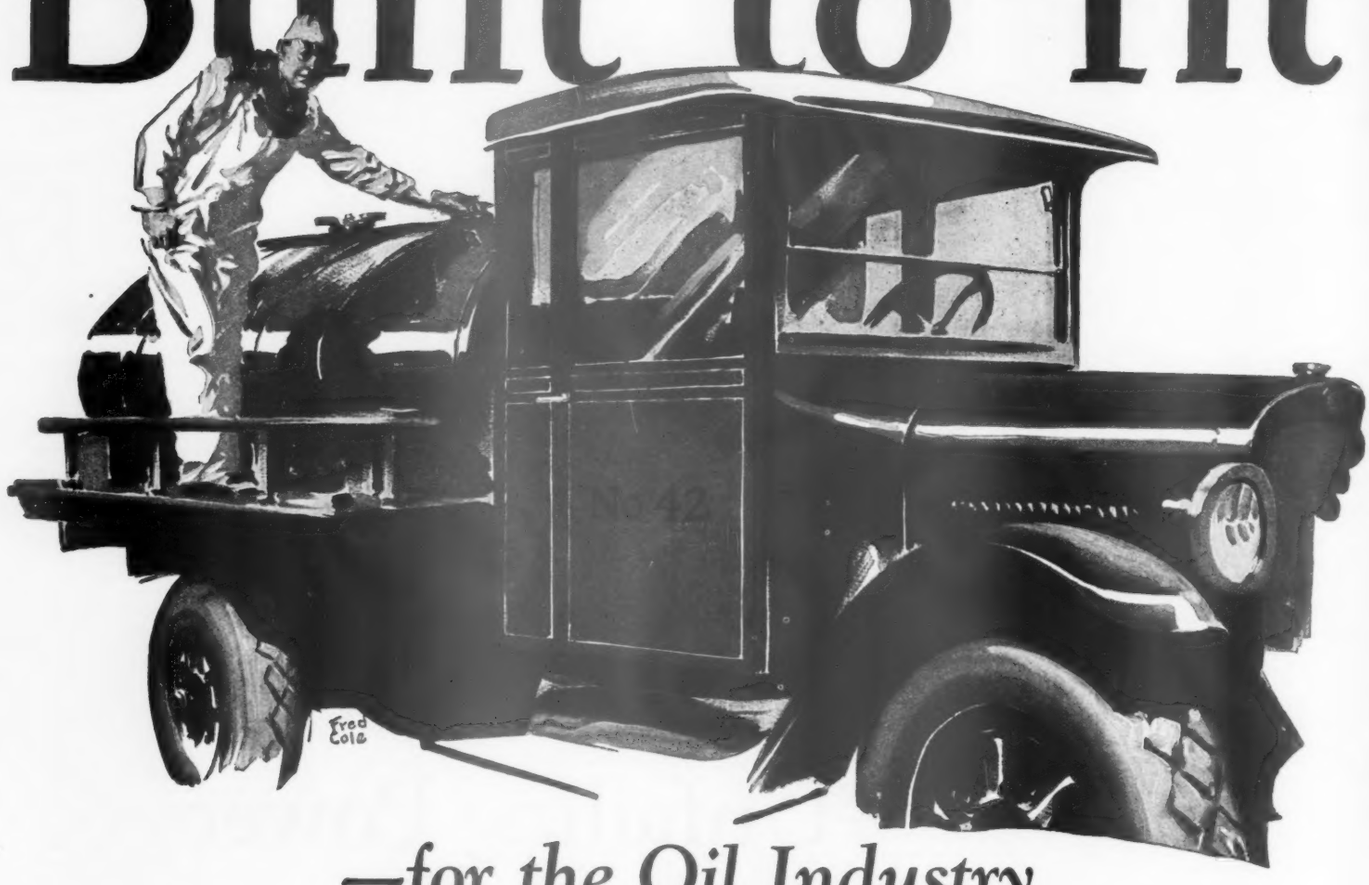

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BROTHERS
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West Virginia 35 Bbl. Well Leads East

Southeastern Ohio Fails to Complete Even One Large Well for First Time in Many Weeks

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., June 20.—In the eastern fields during the past week, the wells that came in were of the kind that make it scarcely profitable to drill for them. In the entire list of completions there was not a large producer and the best not good for more than 35 bbls. a day. The deep sand territory in southeast Ohio for the first time in many weeks failed to complete one or more large wells. The week, taken as a whole, was extremely dull, fewer wells having been completed and the new production fell very low.

It is the exception when drilling over old territory that a good producer is completed. The old wells have had a long pull, making the new extremely light or dry. The refineries in Pittsburgh and vicinity are slowing down and taking less crude than for some time. Nearly all are running on Pennsylvania grade crude. For some few days it was reported there was a noticeable shortage in gasoline.

The best well of the week was the Public Gas Corp.'s No. 25 on the Logan Cannel Coal Co.'s property, in Harvey district, Mingo County, West Virginia. It was good for 35 bbls. a day in the Maxon sand.

In Section 21, Fallsbury Township, Licking County, Ohio, Sterl C. Brown completed in the Berea grit No. 7 on the H. A. Nolan farm, good for 10 bbls. a day. In Section 22, same township, the Leonard Oil & Gas Co.'s No. 6 on the Hoover Brothers' farm is the same kind of a pumper in same formation.

In the northeast quarter of Section 2, Fallsbury Township, Licking County, the Margaret Oil Co.'s second test on the L. A. Rinehart farm, is a 5-bbl. pumper in the Berea grit. In the northeast quarter of the same section and township, the Arkansas Fuel Oil Co. has a 5-bbl. pumper in the Berea grit at a test on the B. G. Anderson farm.

West Virginia

The West Virginia fields completed only light pumpers and gas wells. In Center district, Calhoun County, W. H. Bickel has a gasser in the Big Injun sand at No. 3 on the L. E. Betts farm. This well was drilled deeper. In Center district, Wetzel County, the Hope Construction & Refining Co. has completed its test on the R. M. Postlethwait farm, a gasser in the stray sand and showing a little oil.

In Carroll district, Lincoln County, the Atlas Gas Co. has completed a second test on the G. E. Wysong heirs' farm. It is a gasser in the Berea grit. In Sheridan district, G. T. Ray & Son's test on the Herbert Adkins farm is a gasser in the same formation. In Grant district, Cabell County, the Monickel Gas Co. has a gasser in the Berea grit at a test on the W. L. Rucker farm. In the same district, the Big Two-Mile Gas Co. has shut down at 2,350 feet on the Gilbert Moore farm, and is waiting for a shot. In McComas district, the Commercial Gas Co. is testing for gas in the brown shale on the I. D. Cutright farm.

Calhoun County

In Sheridan district, Calhoun County, C. B. Lewis & Co.'s test on the Melville Westfall farm is good for 3 bbls. a day in the Big Injun sand. In Center district, Gilmer County, McCall & Co. have a gasser in the same formation at No. 3 on the Cary Mollohon farm.

In Union district, Wood County, the South Penn Oil Co. has completed in the Berea grit a second test on the James R. Barrett farm. It is not good for more than 2 bbls. a day. In West Union district, Doddridge County, the Clifton Oil & Gas Co. has a gasser in the Big Injun sand at No. 15 on the F. Freeman farm. A short time ago this farm was producing more oil than any other in the county. In the same district, the same company is drilling a test on the Thomas Smith farm.

On the north fork of Hughes River, Grant district, Ritchie County, T. A. and E. P. Mellon have drilled their test on the Elias Cain farm and got a gasser in the salt sand that tested 2,000,000 feet a day. A fair show of oil was developed in the Cow Run sand but was for the present cased off. Later it will be tested in the last-named formation.

Clay County

In Henry district, Clay County, the South Penn Oil Co. has completed in the Big Injun sand No. 5 on the A. B. Hicks farm, good for 15 bbls. a day. The location is 550 feet north of the first test on this farm. In the same district, 8,000 feet east of the test on the Hively School lot, the United Fuel Gas Co. has completed a test on the S. S. Moore farm. It is a duster in the same formation.

Marshall County

In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has completed No. 3 on the R. A. and J. S. Marple farm showing for a light pumper in the Gordon sand. In the same district, Guy Patterson has a gasser in the Gordon sand at No. 6 on the William Davis farm. In McElroy district, Tyler County, the Hope Natural Gas Co.'s test on the James Gray farm is a gasser in the Big Injun sand.

In Sheridan district, Calhoun County, the Hope Natural Gas Co. has a gasser in the Big Injun sand at a test on the W. A. Richards farm. In the same district, the same company is drilling deeper its test on the Manly Collins farm. In Grant district, Ritchie County, L. N. Rinehart and others have a very light pumper at a test on the O. Ingram farm. In the same district, the same parties have a duster at a test on the Joseph Ingram farm. In Clay district, the Rico Oil & Gas Co. has drilled to a depth of 1,900 feet and shut down on the D. M. and W. H. Bradford farm.

Dusters in Pleasants County

In McKim district, Pleasants County, Howard Hall and others have a duster at a test on the L. M. Miracle farm. In Jefferson district, the Ambler Oil Co. had the same luck at No. 4 on the Calvin Templeton farm. In Lee district, Calhoun County, the Hope Natural Gas Co.'s test on the G. G. Kelly farm is a gasser in the Big Injun sand. In Elk district, Kanawha County, the Oakland Development Co.'s test on the J. H. Cooper farm is a gasser, good for 230,000 feet, in the Weir sand.

Drilling and Starting Tests

On McKim Creek, Jefferson district, Pleasants County, John Flynn & Co. have started to drill a test on the H. Pryor farm. In Sardis district, Harrison County, the Carnegie Natural Gas Co. is drilling to the lower sands its test on the T. L. Strothers farm. In McClellan district, Doddridge County, A. C. Garner and others have the rig completed on the Thomas Phillips farm. In New Milton district, J. E. Trainer is building a rig on the Lewis Maxwell farm.

In Coal Township, Harrison County, the Washington Gas Co. has a shutdown at 2,370 feet on the E. D. Titro farm. In McClelland district, Doddridge County, the Little Five Oil Co. is due in the Keener sand on the T. C. Chipps farm.

Ritchie County Tests

In Murphy district, Ritchie County, Sylvester Wilson has started to drill on the B. B. Nutter farm. In Grant district, the Junior Oil Co. has shut down on the John Hickman heirs' farm. In the same district, the Mellon Oil Co. is drilling on the Rachel R. Cain farm. John Smith & Co. are drilling on the William McTaggart farm in Grant district, Pleasants County. In Walker district, Wood County, the Penn Mex Royal Oil Co. has placed tools at a location on the Rebecca Montgomery farm. In Troy district, Gilmer County, the Star Oil & Gas Co. has abandoned its location on the Porter G. Nutter farm. In the same district, the Carnegie Natural Gas Co. is drilling on the A. H. Brake and Cecil McQuain farms. In Mannington district, Marion County, the Clifton Oil Co. has shut down for 8¼-inch casing on the Belle Snyder farm.

Marion County

On Robinson Run, PawPaw listrict, Marion County, Victor Tennant has the rig completed for a test on the Homer Amos farm. In Jefferson district, Pleasants County, the Ingram Farm Oil Co. has started to drill a second test on the A. D. Ingram farm. In Jefferson district, Lincoln County, the Cambridge Gas Co. is drilling on the Clinton VanGundy farm. The David Gas Co. is drilling a second test on the D. Miller farm. In Harvey district, Mingo County, the Old Colony Oil & Gas Co. is due in the sand at a second test on the Thomas Caldwell farm. In Sherman district, Boone County, the Pure Oil Co. is drilling Nos. 19 and 20 on the Federal Coal Co.'s property. The same company is drilling No. 28 on the Lafollette, Robson & Prichard tract. No. 18 on tract B is drilling near the top of the sand. In Peytonia district, the Pittsburgh & West Virginia Gas Co. has started to drill a second test on the T. B. Sailor farm.

In Grant district, Pleasants County, West Virginia, Smith Brothers have completed a test on the W. P. Taggert farm. It is a duster in the Big Injun. On McFarlan Creek, Murphy district, Ritchie County, the Reno Oil Co.'s test on the J. L. Mullinax 30 acres is also a duster in the same formation. A little show of oil was developed in this well.

Monongalia County

In Battelle district, Monogalia County, the Manufacturers Light & Heat Co. has completed in the fourth sand a test on the Simon Yost farm. It is a gasser. In Mannington district, Marion County, the Hope Natural Gas Co. has a fifth sand gasser on the C. J. Cunningham farm.

In Center district, Wetzel County, the Hope Construction & Refining Co. has completed and shot in the Gordon sand a test on the R. N. Posthlethwait farm. It is showing for a 2-bbl. pumper.

In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has made a location on the L. and J. E. Anderson farm. In Harper district, Roane County, Simms & Co. have shut down for orders on the S. M. Curry farm. In Lee district, Calhoun County, Kingsbury & Dollman have a rig up on the L. L. Lynch farm. In Sheridan district, the

(Continued on Page 123)

ELEVEN COMPLETIONS AT SAGINAW; SHOWINGS FOUND IN DUNDEE SAND

By Whit
Staff Correspondent, Michigan Fields

SAGINAW, Mich., June 20.—An improved showing is made for the week in the Saginaw Field, with 11 new completions, with an initial production of about 256 bbls., a very good average for Berea sand wells. Considerable enthusiasm prevails in Saginaw over the prospects of a deeper sand production than the Berea sand, south of the city in Birch Run Township. Interest in the possible finding of Dundee sand oil is stronger in that part of Saginaw County than at any other point at this time. The wildcat well of the B. & B. Oil Co. on the Pat Sauve farm, a short distance northeast of the hamlet of Birch Run, was given a shot of 180 quarts and shortly after filled up with 500 feet of fluid, which is a promising showing. Top of the Dundee in this well was found at 2,515 feet and 35 feet in that formation a showing was found, but the well was drilled 125 feet in the Dundee to a total depth of 2,640 feet. More can be told of the venture after it has been put on the pump. In the same township, and between the towns of Birch Run and Blackmar, the well of Johnson and others topped the Dundee sand at 2,570 feet, and found a showing at 15 feet in the sand, and at last report had gone 95 feet in the Dundee and was still drilling.

Development to Spread

A large part of Michigan will be the scene of oil prospecting during the summer months, according to a survey of the situation recently made by the Michigan Manufacturer and Financial Record. Prospects are that there will be oil tests in 22 counties this summer, according to the report, with work already started in some of them. After discussing the situation in the Saginaw Field, the report says:

"The prospects of oil in the State have been felt outside the Saginaw territory in practically all sections of Michigan. There are negotiations for drilling, and in some cases actual drilling operations, from Boyne City in the northern part of the Lower Peninsula to points near Dundee in the far southeastern part of the State, and from Cheboygan County at the top of the Lower Peninsula to points in Cass County at the far southwestern corner of Michigan. Experiments will also be made in Schoolcraft and Luce Counties in the Upper Peninsula.

"Drilling in the vicinity of Muskegon has been started by the Muskegon Oil Corp., which is prepared to sink five wells in the county to a depth of 2,000 feet. Mineral rights have been secured by the company on approximately 40,000 acres of land which are held under 10-year leases.

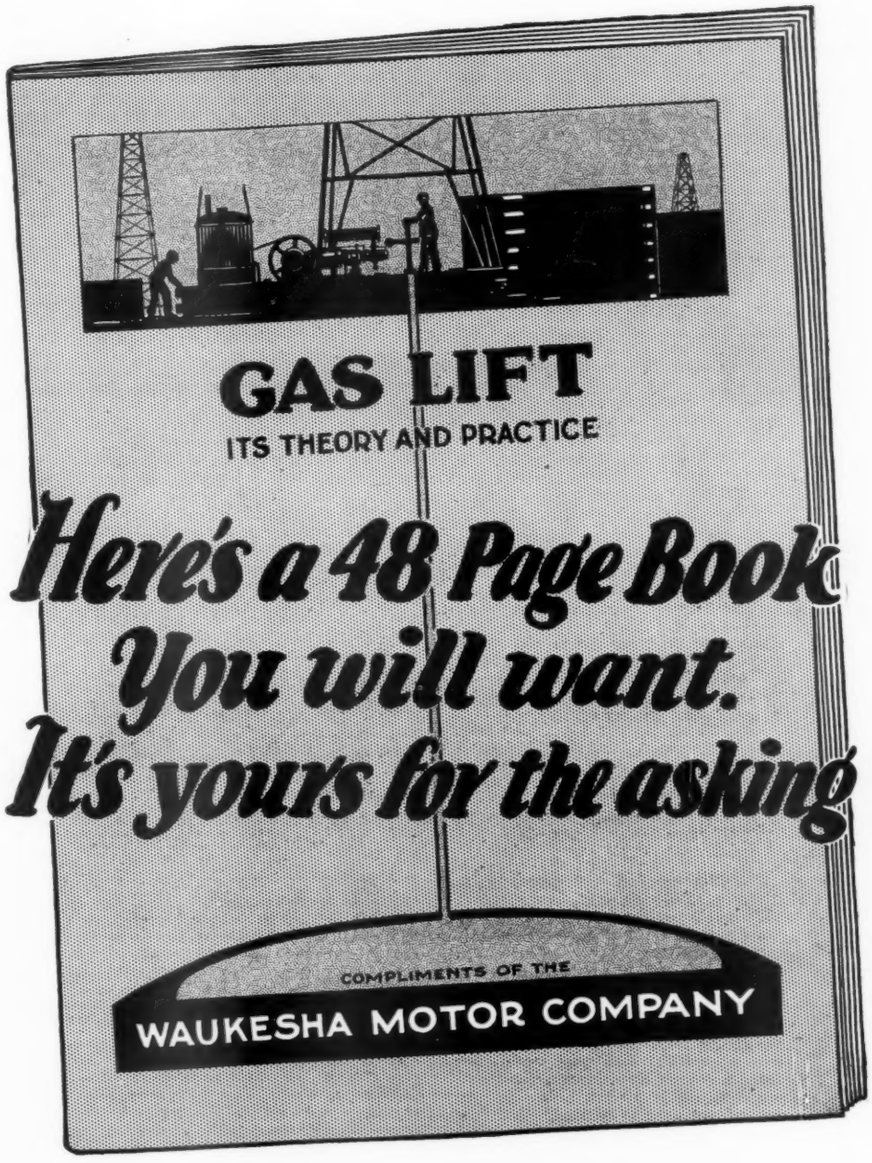
"An increase of about 40 to 50 per cent in the flow from the Ryerson well, operated by the Peoples Milling Co., at Muskegon has been reported.

"Equipment and machinery has been placed on the McGuineas estate, 4 miles northwest of Owosso, and drilling for oil in Shiawassee County is under way. Leases on 52 farms in the county have been filed covering about 53,340 acres of land. Over 51,000 acres of this is under lease to two Pittsburgh men and the Sun Oil men. D. W. McKeighan of St. Charles, representing unknown interests, has filed leases for about 100 acres. The townships in which leases have been signed are Perry, Antrim, Scio ta, Woodhull, Middlebury, Fairfield, Owosso, Rush, Hazelton and Bennington.

Pittsburgh Companies Enter

"Two Pittsburgh oil companies have filed over 300 gas and oil leases on farm lands lying south and west of Charlotte

(Continued on Page 123)



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The Climax Engineering Co. of Clinton, Iowa, is announcing the Paymaster Junior, a smaller cable drilling power operating along the same principles employed on the 6-cylinder Paymaster model cable tool outfit. The engine of this smaller unit is a maximum 90-horsepower, 4-cylinder, 6 by 7, known as Model "R4U." Parts of this smaller engine are interchangeable with the larger one. The unit is cooled with the radiator, arranged to operate on both gasoline and natural gas without stopping the engine to make the change of fuel, and is equipped with long distance telegraph controls which run to the derrick floor for control, the same as with steam. The engine is equipped with 12-volt electric starter, generator and battery, and provision is made for installing it on two wooden timbers, thus doing away with concrete foundations.

This engine belts to a reverse clutch by endless belt. The reverse clutch is the same as used on the larger model, which should insure even a longer life when used with this lesser power. The entire outfit has been developed with special reference to National No. 2 and 2-A portable drill rigs for drilling to depths not to exceed 2,200 feet.

The manufacturers or their exclusive distributors, the National Supply Co., will be glad to give additional information through any of their many stores.

WADE ENGINEERING CO. LINCOLN DISTRIBUTOR

The Lincoln Electric Co of Cleveland, Ohio, announces the appointment of the Wade Engineering Co., 1855 Industrial Street, Los Angeles, Calif., as distributor of Lincoln products in California. This company maintains a branch at 69 Webster Street, Oakland, Calif., both main office and branch carrying stock of Lincoln "Linc-Weld" motors and "Stable-Arc" welders, as well as service parts.

The Los Angeles branch is in charge of Henry N. Wade, president of the company, who is an experienced electrical engineer and a graduate of Cornell University. For seven years he was in charge of alternating current development with the Cutler Hammer Manufacturing Co., and for two years was sales manager of the Keystone Iron Works, Los Angeles. For the past three years he has been engaged in engineering and consulting work with various oil companies.

The Oakland branch is under the direction of H. T. Lintott, who is also an experienced electrical engineer and a graduate of the University of Nevada. For the past 10 years Mr. Lintott has been electrical superintendent with the Pacific Coast Steel Co. of San Francisco and is widely known in the Bay district.

ENGINE IS FREIGHTED BY CANOE AND PACK

When the General Holding Co., Ltd., of Edmonton, Alberta, Canada, took over a mica mining claim in northern British Columbia, it found it necessary to pack in supplies, so inaccessible was the location in the heart of the Canadian Rockies. Among the equipment needed was a gasoline engine. A Climax model "K," four-cylinder engine was purchased.

From the factory of the Climax Engineering Co., Clinton, Iowa, the engine was shipped by railroad to the banks of the Peace River, a favorite location of Northwest Mounted Police tales. Here the engine was disassembled, placed in birch-bark canoes and freighted up the river to the foothills of the Rockies, thence by pack horses to the final destination.

STEEL PRICES AND TURNOVER ARE STEADIER THAN EXPECTED

By B. E. V. Luty

PITTSBURGH, Pa., June 20.—The pipe trade continues quiet, taking the trade as a whole. There is very much less demand for casing and other well material this year than last, while demand for standard or merchant pipe has been off about 10 per cent from last year. Beginning last October there has been a heavier demand for line pipe in the larger sizes than ever before, chiefly for natural gas lines. This business has been relatively slack in the past few weeks except for the large buying reported a week ago, including 100 miles of 16-inch and 60 miles of 12¾-inch, taken by the National Tube Co.

The official statistics of finished steel production in 1926, just issued, shows that there was not altogether as heavy production of oil country tubular goods last year as was intimated in the trade. Percentage rates of operation last year were evidently somewhat exaggerated, as with the large increase in capacity since 1923 the operating rates mentioned during the year would have resulted in a larger tonnage than is now reported.

Seamless Tubing

Production of seamless tubing has been reported year by year since 1913, but it is only for 1926 that the product has been segregated into the divisions used in welded pipe. Thus an opportunity is now afforded to observe what a large quantity of seamless material is used in oil and gas field work, this being chiefly the growth of a very few years past. Total production as reported for 1926, in gross tons, was as follows:

	Lap and butt weld			Seamless		
	Iron	Steel	Total	Hot finish.	Cold drawn	Total
Black standard	76,648	1,301,099	1,377,747	6,619	627	7,246
Galvanized	41,859	484,242	526,101	1,958	.....	1,958
Oil country goods	21,568	1,306,726	1,328,294	444,632	1,446	446,078
Mechanical tubes	.....	..	....	26,393	78,549	104,942
O. D. and miscellaneous	..	109,520	109,520	7,754	33,251	41,105
Boiler tubes	19,361	41,492	60,853	133,580	40,420	174,000
Total	159,436	3,243,079	3,402,515	620,936	154,393	775,329

The 1926 production of welded tubular goods was 30 per cent above that of 1925 and 3 per cent under that of 1923, the record year. Production of all welded tubular goods was 12 per cent above 1925 and 1½ per cent above 1923, the record year. Production of seamless tubing of all descriptions was 37 per cent above 1925, which had been by a large margin the record year. In both 1918 and 1920 about 292,000 tons were made. Thus there has been an enormous increase in seamless, partly by new uses and partly by its supplanting welded. Years ago boiler tubes switched largely from welded to seamless, and lately seamless has been the chief material in rotary drilling.

Demand Keeps Up

Demand for steel as a whole has been keeping up better in the past couple of months than was expected, the seasonal decline being even less marked than last year. Production of steel ingots last month, reported at 4,046,214 tons, was only 2 per cent under the April production and was 3 per cent above production in May, 1926. Last January production was 8 per cent under the preceding January, but each month since has shown a gain over last year, whereby the five-month total for this year is less than 1 per cent under the similar five-month total of last year. Some slight further decrease is expected, but usually there is an upturn after July.

The Steel corporation's unfilled obligations decreased 405,191 tons in May, against decreases of 97,008 tons in April and 43,979 tons in March, but the combined decrease in the three months was less than half the decrease in the same months of any of the past three years. The great vogue of hand-to-mouth buying tends to decrease the monthly variations in the unfilled tonnage and in the long range it has greatly decreased the total, not nearly so much business being carried on mill books as a few years ago.

Finished steel prices have shown no further weakening of late. There are various irregularities, but they do not seem to increase. Altogether the steel market is steadier in prices and turnover than was expected would be the case at this time.

IMPROVED PROCESS IN WRENCH MAKING

Several hundred million pipe wrenches of the Stillson type, most of them made in America, are in active use throughout the world, while millions have been destroyed, lost or worn out in the last 50 years. This tool, unique in its mechanical functions and typical of American inventiveness, is being sold in increasing numbers each year. Long ago it became an indispensable part of the equipment of industry in general and in particular of those industries employing pipe in their manufacturing or production processes.

The Stillson was invented in 1869 by Daniel Stillson, a Civil War veteran employed in the shops of the Walworth Co., then at Cambridgeport, Mass. Stillson, incidentally, made a fortune out of his invention. During the life of the patents, the Walworth company had the exclusive manufacturing rights. When the patents expired, competition crept in and now there are a score or more of concerns making pipe wrenches patterned after the original Stillson idea. The basic design of the wrench never has been materially altered, although literally thousands of suggestions have been submitted and rejected after study by engineers.

Of recent years, with the growth of the pipe fitting and plumbing industry, the advance of steam power, the spread of chemical processes in industry and the tremendous increase in the production of oil and refined by-products, the strength in pipe tools has become the chief factor of importance in the minds of manufacturers.

Walworth company engineers, after extensive research and experiment with the forged steel of which the Stillson is made, recently devised a new manufacturing process and adopted new methods of heat-treating to increase the toughness and strength of the Stillson. These improved processes now have been applied to the manufacture of the wrench—with results, it is reported, that surprised even the men who worked out the new idea.

TRADE LITERATURE RECEIVED

From Tuescher Pul'ey & Belting Co., St. Louis, Mo., a catalog showing its line of pulleys, belting and clutches.

From A. Leschen & Sons Rope Co., St. Louis, Mo., the current issue of "The Hercules Record," detailing various performances of wire rope.

From Hiergesell Brothers, Philadelphia, Pa., a folder describing a new hydrometer thought to embody many good principles.

From the Ohio Injector Co., Wadsworth, Ohio, a copy of catalog 41, showing the line of valves which that concern makes. It is a handy edition for the engineer.

SPECIAL ALLOY USED IN NEW STILL PLUG

The William J. Sweet Foundry Co., of Irvington, N. J., has just placed on the market a new still plug made of their special alloy, known as Sweetaloy.

The claims made for this Sweetaloy plug seem to indicate that it is a plug which may overcome the great difficulty experienced heretofore. Sweetaloy is a specially produced new iron base alloy, combined with chromium and nickel. Chromium in itself is now known as a great factor in anticorrosion materials.

This plug is an electric furnace product—definitely controlled, developed in co-operation with the engineers of the Universal Oil Products Co. (Dubbs Process.) The important factors which are said to be guaranteed by the manufacturer of this plug are (1) Absolute resistance to corrosion; (2) Easy to remove; (3) Threads not embrittled after several months' use; in fact, absolutely unaffected; (4) 50 per cent stronger than steel.

FRICK-REID MOVES TO NEW TULSA OFFICE

The Frick-Reid Supply Co. has moved its general offices from the Drew Building, Tulsa, Okla., to the new office structure recently completed upon its property at Trenton Avenue and the Frisco tracks.

A housewarming will be held in the new building on Friday, June 24, from 7 to 10 p. m., and refreshments will be served in the cafeteria which is maintained for the 100 Frick-Reid employes.

The office building is of fireproof construction with concrete vaults on every floor. Automobiles will be operated upon regular schedules from the building to town to take care of the company's mail and banking, and to bring to the office any customers or friends.

FIRE EXTINGUISHER WITH NEW PRINCIPLE

One of the most recent developments in the field of fire prevention of particular interest to the oil industry, is a new portable type of extinguisher using carbonic gas liquefied under pressure. This extinguisher, called Fyre-Freez, operates on a comparatively new principle. It smothers flames by dense vapor of carbonic gas, at the same time cooling the substance ignited with the intense freezing effect of particles of carbonic snow deposited on the surface of the burning material. Carbonic snow has a temperature of 110 degrees below zero. This extinguisher is a product of the General Carbonic Co. of New York City, one of the largest producers of carbonic gas in the country.

These extinguishers have many advantages said to have been proven in public demonstrations held at the Long Island City plant of the company and witnessed to by men in the oil industry fire prevention field. At a recent demonstration, such men as F. A. Epps, superintendent of inspection service, Tide Water Oil Co. (formerly connected with the Foamite-Childs Corp); Robert W. Black of the Standard Oil Co. of New Jersey; Charles H. Meigs of Gasoline Patent Corp. (formerly connected with the Foamite-Childs Corp.), and many others were present.

Half Million Pounds

Carried by a Moore Derrick

over Amerada's Forest Anderson No. 1, near Earlsboro, Oklahoma

The performance of this 4", 123' rotary relegged derrick under tremendous load illustrates the dependable strength of Moore Tubular Steel Derricks.

Use the strongest Derrick
Moore
TUBULAR STEEL DERRICKS
MOORE uses Steel in its most rigid shape—the Tube—with a joint that is stronger than the section itself—the Moore Patented Clamp. The result is unquestionably the strongest derrick made.
Tubular steel is the strongest section, with the greatest rigidity per unit of weight, that can be used to carry compressive loads.
Strong as is the steel tube, tests show the clamped and braced joint to be the strongest part of a Moore Tubular Steel Derrick.
The Moore is strongest.
World Wide Service for Twenty Years
LEE C. MOORE & CO., Inc. PITTSBURGH · TULSA
Established 1907
DALLAS, TEXAS HOUSTON, TEXAS WICHITA FALLS, TEXAS BORGER, TEXAS PARKERSBURG, W. VA.
CASPER, WYO. SHREVEPORT, LA. EL DORADO, KAN. EL DORADO, ARK.

World Wide Service for Twenty Years

When Amerada's Forest Anderson well No. 1 had reached a depth of 4278 feet, the pipe was dropped while 6-inch casing was being run, after 139 joints had been lowered into the hole.

Seven lines were strung to fish for the casing and 4½-inch 32 lb. hydraulic pipe was used. 76 joints were thus recovered but as the pipe was pulling very hard, nine lines were strung in the derrick. The pipe still refused to come and a bull hitch, using a 1¾-inch dead line, was decided on. This broke the wooden walking beam.

Two oak timbers, each 14"x14"x16', placed one on top of the other, were then installed. One end rested on the samson post and the other was supported by a joint of 15½-inch casing. Next, the dead line pulled in two and a 2-inch line, which was substituted, also failed. A new one was installed but the pipe still refused to come.

Two 125 ton hydraulic jacks were then installed and the pipe was jacked up to the limit of the jacks. But it still held fast. **It was then found that it was possible to lift the pipe off the jacks with the derrick,** so their use was abandoned and straight pulling resumed. As the capacity of each jack was 250,000 pounds, the derrick carried a load in excess of 500,000 pounds.

A 12x12 engine with two balance rims attached, and a steam pressure of 175 lbs. was carried during the fishing operation.

LEE C. MOORE & CO., *Inc.* PITTSBURGH · TULSA

Established 1907

DALLAS, TEXAS HOUSTON, TEXAS WICHITA FALLS, TEXAS BORGER, TEXAS PARKERSBURG, W. VA.
CASPER, WYO. SHREVEPORT, LA. EL DORADO, KAN. EL DORADO, ARK.

MEN KNOWN IN OILDOM

J. R. Parten

When J. R. Parten, just out of the service after the World War, went to Shreveport, La., with his eye on the oil industry as his vocation, the North Louisiana-Arkansas district received a man who was destined to become one of its most successful operators.

Major Parten is vice president and general manager of the Woodley Petroleum Company, which company he was instrumental in organizing in March, 1922. Under his direction and that of others associated with him, the company has made a name for itself as one of the leading independent producers of North Louisiana and Arkansas.

Comparatively young in years and with no experience in oil, Major Parten moved to Shreveport in 1919 during boom days, and, becoming associated in a partnership, went into the business for all it was worth. Working the entire Arkansas and North Louisiana district and developing some valuable production and holdings he established himself to such an extent that when, in 1922, his interests and other groups were consolidated into what is now the Woodley Petroleum Company, he was one of the leaders in the move.

Later in January, 1925, he was placed in active charge of the company's operations as vice president and general manager.

Major Parten was in Texas University at Austin studying law and science when he heeded the call to war service in 1917 and was assigned to Leon Springs officers' training camp. From there he was sent to Camp Jackson, South Carolina, as an instructor in field artillery and a year later was promoted to majority although but 22 years old.

With the close of the war he had the option of accepting a post in charge of army training at Harvard University, but, preferring to enter business, he set his interests on oil and came to Shreveport.

PERSONAL PARAGRAPHS

M. E. Templeton, Seminole, Okla., treasurer of the Canyon Oil Company, was a recent visitor in Amarillo, Tex.

* * *

S. T. Steele, of the Union Machine Company, of Bartlesville, Okla., is visiting his mother and other relatives at Dubois, Pa.

* * *

E. J. Nordstrom, formerly in charge of the Dallas and Houston, Tex., offices of the Taubman Supply Corporation, has returned to the Tulsa, Okla., offices as vice president and sales manager.

Frank O'Dell, Shreveport, La., oil operator, is spending a short time in Pennsylvania and other eastern fields.

* * *

W. H. Dwyer, of the United Iron Works sales force, was a Tulsa, Okla., visitor last week, and called on the trade.

* * *

J. H. McEvoy, of the McEvoy Screen Company, has returned to his home in Houston, Tex., after a trip to the California fields.

* * *

Charles Paggi, secretary of the Tholl Oil Company of Beaumont, Tex., was a business visitor in Shreveport, La., during the week.

* * *

Capt. William J. McKeon has retired as marine superintendent of the Atlantic Refining Company, after 34 years' continuous service.

* * *

H. H. Carson, Mid-Continent representative of the Ajax Iron Works, Corry, Pa., is back in Tulsa, Okla., after a trip through the Oklahoma fields.

* * *

R. H. Bartlett, president of the Braden Company, Tulsa, Okla., has gone to Cuba, N. Y., for the summer and will return to Tulsa in September.

* * *

Dave Frame, superintendent of the Humble Oil & Refining Company's West Texas division, at McCamey, Tex., was a San Angelo visitor last week.

* * *

L. C. Fay, with the Byron Jackson Pump Manufacturing Company, is now located in the Mid-Continent Field with headquarters at Dallas, Tex.

* * *

J. E. Shaffer, president of the J. E. Shaffer Company, manufacturers of Shaffer gauge cocks, is spending the summer in the Ozarks at Branson, Mo.

* * *

E. J. Cole, of Pittsburgh, Pa., comptroller and vice president of the Arkansas Natural Gas Company, has been visiting offices of his company at Shreveport, La.

* * *

E. H. Leroux, president of the Oklahoma Pipe Line Company, with headquarters at Muskogee, Okla., spent a day in the Tulsa offices of his company last week.

* * *

J. J. Jenkins, president of the Evangeline Oil Company of Wichita Falls, Tex., has returned to his office from a trips to Southwest Texas, around the San Antonio district.

* * *

Allen Riley, independent operator of Ponca City, Okla., has transferred his attentions to the San Angelo, Tex., territory for the time being and is assembling some acreage.

* * *

M. H. Shanahan, of Wichita Falls, Tex., superintendent of production for the Continental Oil Company, recently toured the Panhandle fields inspecting the company's properties.

* * *

M. J. Grogan, vice president of the Louisiana Oil Refining Corporation of Shreveport, La., was in Cincinnati, Ohio, looking after marketing business of his company in that district.

* * *

Walter Alexander and E. H. Eddleman, of the Continental Oil Company's Wichita Falls, Tex., office, made a trip to the company's headquarters at Denver, Colo., recently on business.

* * *

Maj. J. R. Parten, vice president and general manager of the Woodley Petroleum Company of Shreveport, La., has been away from his office a week visiting in Dallas, Tex., and other points.

* * *

Glenn Garrett, head of the land department of the North Texas division of the Gulf Production Company, has returned to his offices in Fort Worth, Tex., following a two weeks' fishing trip on the Gulf Coast.

* * *

R. W. Howe, manager of transportation and terminals of the purchasing and marketing department of the Atlantic Oil Producing Company in the Arkansas and North Louisiana district, was away from his office at Shreveport, La., inspecting the company's Atreco terminal, Port Arthur, Tex.

John Ferguson, district geologist in the Texas Panhandle for the Amerada Petroleum Corporation, has returned to Amarillo, Tex., after spending several weeks in East Texas.

* * *

John R. Suman, vice president in charge of development outside the Gulf Coast for the Humble Oil & Refining Company, Houston, Tex., is vacationing in Colorado Springs, Colo.

* * *

Nelson K. Moody, president of the Prairie Oil & Gas Company, Independence, Kans., was a recent visitor in the Panhandle of Texas with William Kane of the Prairie company's legal staff.

* * *

M. F. Leopold, safety engineer of the Bureau of Mines, is in Casper, Wyo., making motion pictures for the Bureau of Mines of oil field scenes for a picture to be titled, "The Story of Petroleum."

* * *

E. L. Doheny, chairman of the board of the Pan American Petroleum Company, accompanied by Mrs. Doheny, is in New York. Mr. Doheny will be away from Los Angeles, Calif., for about three weeks.

* * *

Axtel J. Byles, president of the Tide Water Oil Company, accompanied by his staff, is in the Mid-Continent Field inspecting the various properties of the Tidal Oil Company, and the Tidal-Osage Oil Company.

* * *

Carey Newlin, field superintendent for the Big Lake Oil Company, and W. G. Thompson, superintendent of that concern's casinghead plant, both of Texon, Tex., were visitors in San Angelo, Tex., last week-end.

* * *

W. R. Shepherd, for the past nine years the head of the Casper, Wyo., branch of the Continental Supply Company, is now district manager of the United Iron Works of Kansas City, Mo., with headquarters at Casper.

* * *

William Neckerman, vice president in charge of tube mills for the Youngstown Sheet & Tube Company, spent a few days in Tulsa, Okla., last week en route to the A. P. I. standardization meeting at Colorado Springs, Colo.

* * *

David Donoghue, head of the geological department of the Texas Pacific Coal & Oil Company, at Fort Worth, Tex., was a recent visitor in Houston, Tex. Mr. Donoghue began his geological career in the Gulf Coast region.

* * *

Earl Dooley, field superintendent for the Union Oil Company of California, has resigned and moved to Oregon. Mr. Dooley had charge of operations in the various states of the Rocky Mountain region for the past eight years.

* * *

Thomas B. Greene, Lima, Ohio, vice president and general manager of the Buckeye Pipe Line Company, and T. C. Barnes, Marietta, Ohio, superintendent of the same company, were Pittsburgh, Pa., visitors last week.

* * *

Roy T. Hazzard has succeeded Frank W. Shropshire as chief clerk and assistant to C. R. Minor, vice president of the Gulf Refining Company in charge of the Shreveport, La., offices. Mr. Hazzard recently went to Shreveport from California, although he formerly had been in the service of the Gulf company.

* * *

F. J. Huffman, vice president and general manager of the Penn Mex Fuel Company, has returned to the main office from Mexico. The main offices of the company are located in the Peoples Gas Company's Building, Pittsburgh, Pa. Mr. Huffman is now optimistic as to the future of the Penn Mex company, since the suit that had been entered against the company has been settled.

* * *

R. C. Baker, president, T. Sutter, secretary-treasurer of the Baker Casing Shoe Company of Huntington Beach, Calif., accompanied by R. G. Garretson and R. C. Baker, Jr., of the company, are visiting their Mid-Continent distributors, the B. & A. Specialty Company of Tulsa, Okla. They will continue through the fields of the Mid-Continent and Gulf Coast territories before returning to California.

One of the Outstanding features of a

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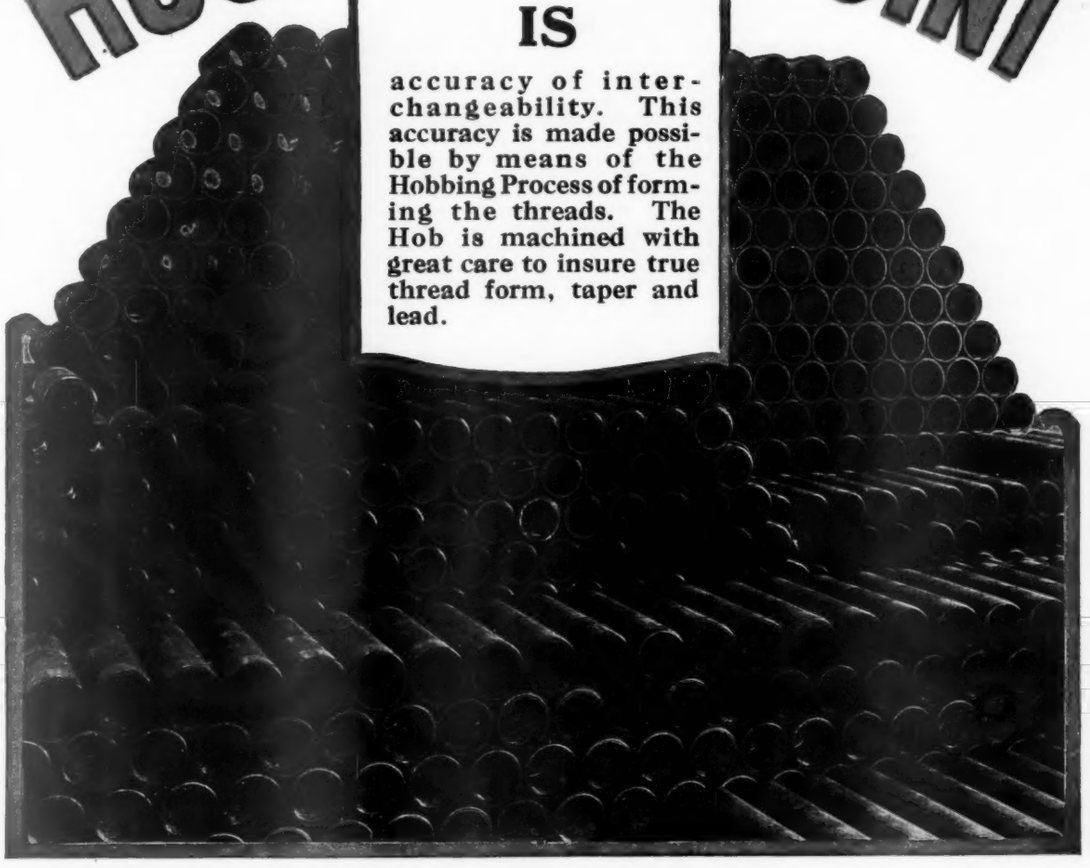
accuracy of interchangeability. This accuracy is made possible by means of the Hobbing Process of forming the threads. The Hob is machined with great care to insure true thread form, taper and lead.



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Sold by supply stores—everywhere

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Main Office and Plant:
HOUSTON,
TEXAS

Export Office:
New York City

Natural Gas Developments

HOUSTON PIPE LINE GAS TO TEXAS CITY

HOUSTON, Tex., June 18.—Natural gas has been turned into the Houston Pipe Line Co.'s new branch line from Alvin to Texas City, where natural gas is being used by the American Sugar Refining Co. The Texas City Power plant and others, according to E. H. Buckner, president of the company. To supply Texas City industries it will require around 4,000,000 cubic feet daily. The Houston Pipe Line Co. is now marketing between 80,000,000 and 86,000,000 feet of gas daily according to Mr. Buckner.

Work on the Houston Pipe Line Co.'s project was started in May 1925 and on September 11 of the same year was turned in under the boilers of the Texas Gulf Sulphur Co.'s plant at Gulf, Tex.

At the present time the Houston Pipe Line Co. has 80 producing wells with a combined open flow, by actual gauge of 2,500,000,000 feet daily. The company has more than 500 miles of pipe line in use serving its consumers and the Houston Natural Gas Co. a subsidiary has 113 miles in addition in operation carrying natural gas.

The Houston Pipe Line Co. is securing its present supply of gas from the Refugio, Lucas, Cole-Bruni and St. Albans Fields and is developing an additional supply at Kingsville.

Among some of the industries supplied by the Houston Pipe Line Co. and their daily consumption of gas follows: Texas Gulf Sulphur, 18,000,000 feet; Freeport Sulphur Co., 32,000,000 feet; Humble Oil & Refining Co., Baytown, 20,000,000 feet; Galena-Signal Oil Co., 5,000,000 to 8,000,000 feet; Houston Lighting & Power Co., 2,000,000 feet; Sugarland Industries 3,500,000 feet. In addition between 2,000,000 and 3,000,000 feet is being used by the Deepwater Refineries, the Texas Chemical Co., Texas Salt Works, Victoria Light and Power Co., Bellville Light & Power and others.

The company is also supplying natural gas to its subsidiary, the Houston Natural Gas Co., furnishing natural gas to 10 suburbs of Houston, the municipalities adjacent to Houston and West University Place, Bellaire and Independence Heights, Baytown in Harris County; Victoria, Beeville, Kingsville, Wharton, El Campo and other small towns.

The Houston Pipe Line Co. has large compressor stations at Edna and Lucas, and field compressors at Refugio.

PANHANDLE GAS LINES FOR SEVERAL TOWNS

AMARILLO, Tex., June 18.—Contractors will begin work at once on the Lockney and Floydada branch of the gas line that will be laid by the Prairie Oil & Gas Co. from the Panhandle gas field. The franchise to supply Lockney with gas was recently granted.

Gas for this territory will relieve the industrial fuel situation considerably for, on account of the high price of fuel, due to the distance from the mines, manufacturers were prohibited from locating in that territory.

Work is progressing rapidly on the laying of a pipe line from the Panhandle fields to Lubbock and Slaton to supply these and other cities with natural gas, according to W. W. Graves, representative of the West Texas Gas Co., Prairie subsidiary. The company was granted a 20-year lease on two tracts of land in the city where it will erect a booster station and a regulator station. A good portion of the pipe for the line has arrived and has been laid on the ground along the line ready for the actual laying of the pipe line.

W. B. Willett, representing the West Texas Gas Co., subsidiary of the Prairie Oil & Gas Co., has established his office in Canyon and will supervise the building of the gas line into that city. Mr. Willett states the company's contract calls for the completion of the pipe line to Canyon by August 1, and that the distribution plant will be built in Canyon at once. Canyon will be the first town south of Amarillo to have natural gas available, according to Willett.

HEAT UNIT GUARANTEE IN HOUSTON CONTRACT

HOUSTON, Tex., June 18. — If the Houston Natural Gas Co. is given a franchise to sell gas in Houston it must guarantee 900 British thermal heat units and no less, it was decided at a conference held by Donald Meachum, Sewall Myer, city attorney, and Judge T. M. Kennerly.

"This clause in the contract is absolutely essential, in my opinion," Mr. Myer said. "This franchise will be good for 30 years and in that time the present gas wells will play out and new ones be brought in. Suppose those other wells do not give as good gas. When Dallas first got natural gas three or four years ago it contained more than 1,000 British thermal heat units. Today it is about 720 units. I think it is the most vital part of the franchise."

E. H. Buckner, president of the Houston Natural Gas Co., told of the decision to ask the guaranty of not less than 900 units, agreed to guarantee this number of units.

The Houston Gas & Fuel Co. in its franchise had to guarantee this amount of heat units, Mr. Myer said, and it was only fair that the other company should make the same guaranty.

BROWNWOOD GAS SALE

BROWNWOOD, Tex., June 18.—M. B. Morgan, for the Morgan Utilities Co. has purchased the holdings of the Industrial Gas Co., a corporation under the direction of Patterson & Miller, Brownwood men, for $67,500, according to Morgan. The city council of Brownwood recently granted Morgan Utilities a franchise to serve Brownwood with natural gas, and the new company will operate under this franchise, although the contract with the Industrial Gas Co. surrenders this gas franchise to the purchase. Mr. Morgan says his company will begin the laying of new pipe lines and the solicitation of new business July 1, when the property of the old company is to be turned over to them.

VENTURA FIELD GAS

A new natural gas pipe line to Los Angeles territory from the Ventura Avenue Field to be opened within a week, will cut Ventura Avenue Field waste gas from 83,000,000 to 43,000,000 cubic feet a day. Recent agreement among Shell, Associated and General Petroleum to pinch the field has resulted in cutting gas production from 222,000,000 to 168,000,000 feet daily. Gas sales to pipe line companies are about 60,000,000 feet, while 25,000,000 feet are consumed in the field. The rest is being blown into the air after passing gasoline absorption plants.

COMMISSIONER HUMES QUITS

AUSTIN, Tex., June 18. — E. F. Humes has resigned, effective July 1, as assistant engineer of the gas utilities division of the Railroad Commission, to become assistant general superintendent of the Southern Gas Co. at San Antonio. Mr. Humes has been with the Texas commission five years and before that was engaged in the same business in Arkansas and West Virginia.

MUSKOGEE GAS WELL STAMPEDES SPECTATORS

In the 50,000,000-foot gas well owned by the W. R. Somerville Oil & Gas Co. in Section 17-15-17, 8 miles west of Muskogee, Okla., one 40-foot steel drilling stem, to which is attached an 8½-foot bit, and 200 or 300 feet of wire drilling rope, were left in the hole when it was completed.

About 1,000 feet of the wire line was removed which furnished such great relief that an immediate increase in gas volume was noted. This volume and pressure had grown in 24 hours to a force that stripped the gates and other equipment from the top of the well, and experts on the staff of the Oklahoma Natural Gas Co. had to be called in.

Quiet reigned for days afterwards, and the Oklahoma Natural was running great quantities of gas from it. It was deemed advisable to "blow off" the well.

What followed is thus described by Charles M. Whaley, oil editor of the Muskogee Phoenix:

"For five minutes or more after its gates were opened it behaved perfectly. Then came the sound of a muffled explosion, seemingly within the bowels of the earth. Spectators raced away. The equipment aboveground shivered and shook, the earth was atremble around the location. Then a tremendous added volume of gas reared from the open gate. In a solid column it mounted rapidly to the top of the 76-foot derrick, reached the "crown block" and in spite of its weight of heavy pulleys, lifted it clear of its supports, splintered top timbers, and just generally wrecked the whole top of the big derrick. The roar of escaping gas was heard in Muskogee, 8 miles to its east, and the entire country in every direction from the howling monster was awakened into terror, as its constant, booming growl was indicative of an approaching cyclone or other atmospheric disaster. As the roar grew louder and more terrifying, spectators who had fled the scene, at the first unusual outburst, again stepped on the gas of their imagination, threw the clutch into "high" and reports declare three or four speeded a mile away from the spectacular sight and sound.

"The thunder of escaping gas, then estimated at from 65,000,000 to 75,000,000 feet was deafening. Danger of it igniting through a spark struck by outhurtling rocks, that played a tatoo upon steel and iron parts of the derrick, was momentarily imminent.

"However, one man stayed within the inferno of sound. Cautiously he flirted with death as he crept into the derrick, blindly grasped the big wheel on the control gate, and then slowly but surely, every moment fraught with extreme danger, he turned the wheel which little by little choked the mammoth well into submission. The bad actor was again under control. In view of the elephantine propensities of the well, officials of the Somerville company have decided against future blow offs for it."

GAS FOR SEGUIN, TEX.

SEGUIN, Tex., June 18.—At a meeting of the City Council a 30-year franchise was granted the Southern Gas Co. of San Antonio to furnish natural gas to Seguin for domestic purposes. The company is given 120 days to start actual installation of pipes and they have posted $10,000 to complete the work according to contract.

SHANNON RE-ELECTED

FORT WORTH, Tex., June 18.—O. K. Shannon, president and general manager of the Fort Worth Gas Co, was re-elected to those posts at the annual stockholders' and directors' meeting held here. Other officers elected were R. A. Crawford, Dallas, vice president; C. K. Sletcher, secretary-treasurer, and the following directors: O. K. Shannon, R. A. Crawford, D. L. Cobb, Dallas; Mike E. Smith and R. E. Harding, Fort Worth.

HELIUM PLANT SEEKS MARKET FOR RESIDUE

FORT WORTH, Tex., June 18.—Confronted with the possibility of having to shut down the United States helium plant at Fort Worth because a market has not been found for approximately 9,000,000 feet of residue gas, government officials and Fort Worth city and civic officials are seeking a market for the gas. State conservation laws forbid the blowing of the residue gas into the air and for that reason it is more imperative to find a local market for it.

Recently the Government appropriated approximately $1,000,000 for the construction of a pipe line from the Nacona Field to supply the helium plant with additional gas. When this line is in operation approximately 9,000,000 feet of residue gas will have to be disposed of. Contracts have been let for the construction of the line and construction work is expected to start soon.

Through the present method of extracting helium from the natural gas only about 1 per cent of helium is obtained, leaving 99 per cent of the natural gas to be disposed of. However, it is expected that a contract will be made for the taking of the residue gas by one of the Texas natural gas transmission companies, before the new line is completed.

For a time it was rumored that the removal of the plant to the Panhandle Field or the building of a new plant there was being considered. If such a rumor had a foundation it is now believed that the Government will not have a plant in Panhandle because of the decision to increase the capacity of the Fort Worth plant. Bureau of Mines staff men made a survey of the Panhandle gas properties some time ago.

HOUSTON WATERWORKS TO USE NATURAL GAS

HOUSTON, Tex., June 18.—The central pumping plant of the Houston waterworks is to switch to natural gas for fuel and thereby save between $15,000 and $20,000 a year for fuel costs. Permission was granted James H. B. House, water commissioner, at the city council meeting, to have the change in fuel lines and equipment made.

The water plant has used fuel oil in the past. A reservoir for the oil will be maintained for emergencies, however.

Mr. House also submitted plans for a warehouse 80 by 129 feet to cost $60,000, for the housing of equipment for the waterworks. The plan did not meet the approval of Mayor Holcombe, the mayor taking exception to what he thought was unnecessary expense in warehouse construction.

"I'm more in favor of one large warehouse for the storing of all city supplies instead of building a warehouse for each department," he said.

The plans were held up pending an inspection of the site, near the reservoir and plants, by the city council.

SOUTH TEXAS PRODUCTION

Completion of 118 natural gas wells in 1926 brought the open flow of the South Texas area to 2,900,000,000 cubic feet daily, making it one of the largest developed gas districts in the world, according to a survey by G. E. Barrett & Co. The open flow of the Laredo territory is placed at 2,000,000,000 cubic feet daily.

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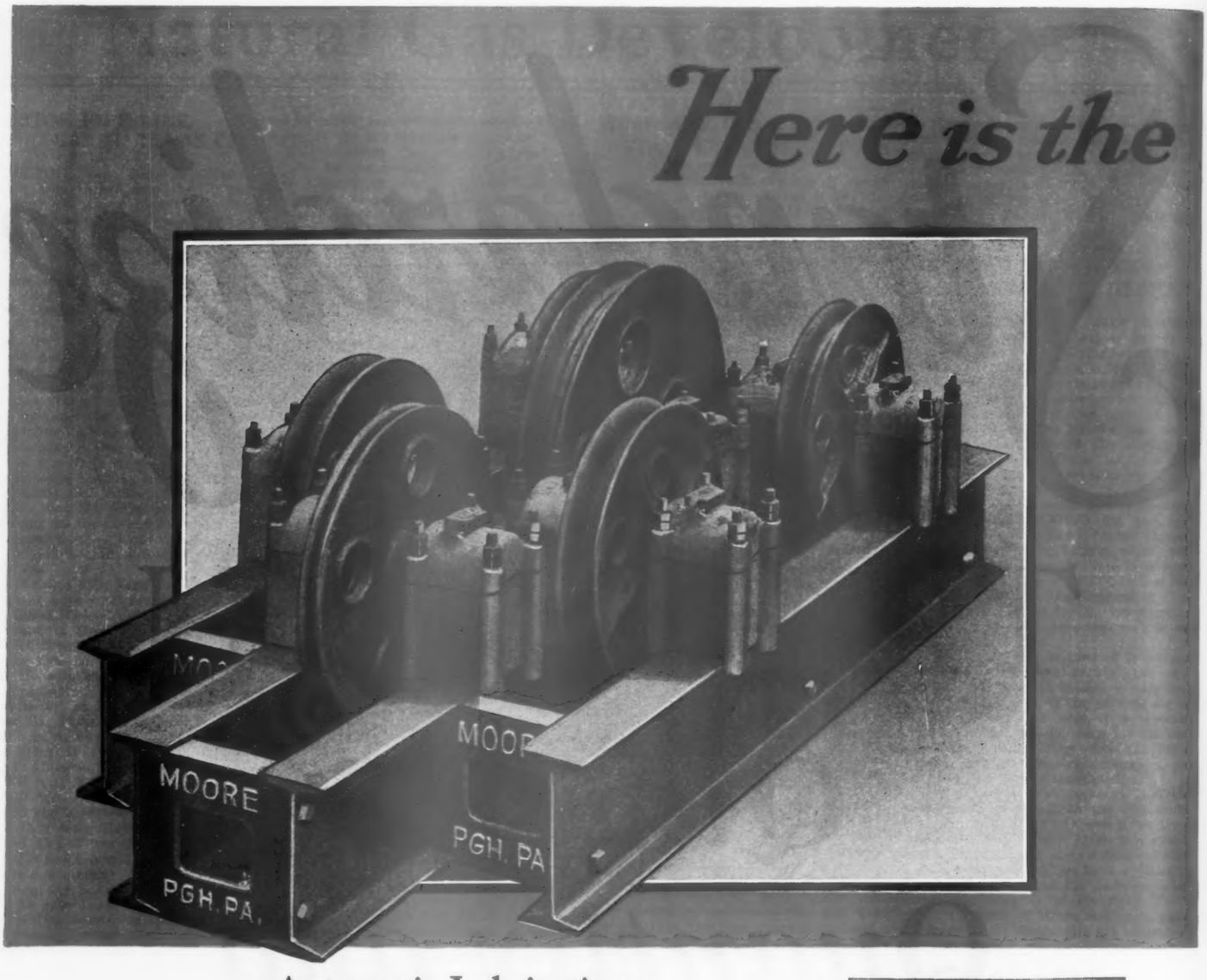

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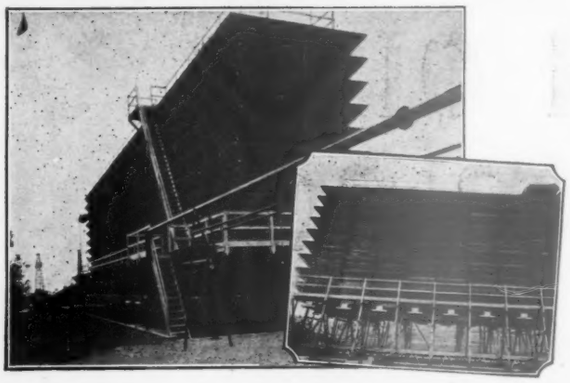

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DISTILLATE MARKET IN TOLEDO AREA LIKELY TO BE LARGELY INCREASED

By Whit

TOLEDO, Ohio, June 18. — At this time there are approximately 1,200 domestic and commercial burners installed in this section. These burners will consume about 4,250,000 gallons of fuel oil during an average year. If the sales programs of the various dealers materialize during the coming season, there will be a great number of new installations by January, 1928. This means a large increase in the consumption of fuel oil of approximately 1,200,000 gallons per season. There is every reason to believe that these sales programs will be carried out.

The burners will consume the following grades: Fuel oil, gas oil and distillate, of which 31 per cent is 24-26 gravity fuel oil, 6 per cent 30-32 gas oil, 46 per cent of 34-36 gas oil and 17 per cent of 38-40 gravity straw distillate.

The 24-26 gravity fuel oil is a dark-colored oil having about a 200-degree Fahrenheit flash, 290-degree Fahrenheit fire and a cold test of about 30 degrees Fahrenheit above zero. This oil is for use in a strictly commercial burner which preheats the oil before burning it, or has a constant circulating system which keeps it in a liquid form at all times. If this oil would congeal from the lack of heat or circulation, it would cause considerable trouble before it could be liquefied again.

Commercial and Semidomestic

The 30-32 gravity gas oil is also a commercial and domestic oil which has a flash of about 175 degrees Fahrenheit and 215-degree Fahrenheit fire, zero cold test, good odor and of dark color. This oil makes an ideal fuel for commercial and semidomestic burners. However, it should be classed as a commercial fuel oil.

The 34-36 gravity gas oil is a low viscosity transparent cracked oil which has a flash of approximately 180 degrees Fahrenheit and fire of 210 degrees Fahrenheit, zero cold test and good odor.

Some domestic burners are designed to burn a heavier oil than a 38-40 gravity distillate, in which case this oil makes a very good fuel unless the carbon content is exceedingly high. If this is true the user will have more or less trouble with his burner clogging up and soot in his furnace and chimney.

The highest type of domestic burning oil is the 38-40 gravity straw-colored distillate which has a flashpoint of 150 degrees Fahrenheit; fire, 200 degrees Fahrenheit; 20 degrees Fahrenheit below zero cold test, and is a very clean oil. This oil is recommended by dealers whose burners are designated to burn a distillate, because it will give a better ignition, especially during the fall and spring months when the burner lies dormant from 4 to 6 hours at a time. It also deposits less carbon and will flow more freely through the lines and strainers. This grade of oil eventually will be recognized as a domestic furnace oil by all refiners; at least that is what some of the burner dealers are trying to put through.

For Domestic Burners

The reasons for making this statement are as follows: The oil will flow freely below zero temperature, consequently it will not clog up lines or strainers during the bitter cold days when you must have a great deal of heat. It has a low enough flashpoint to give satisfactory ignition and the nonburnable carbon content is as low as can be expected considering the quality of oil referred to. Let us consider a fuel oil with a flashpoint of 200 degrees Fahrenheit that is being used during the spring season and the burner has not operated for 5 hours. The oil will flow into the combustion chambers, the vapors or oil coming in contact with the pilot light will ignite, but the oil which hits the cold surface will accumulate until the fire generates enough heat to vaporize this liquid, which burns immediately when the fire passes around the pot or furnace walls.

A good 38-40 gravity distillate will not contain more than .008 per cent more carbon than kerosene oil.

The manufacturers and distributors are furnishing the grades of oil that are being recommended by the various burner dealers. Consequently the owners of domestic fuel oil burners are securing very satisfactory results. Manufacturers and distributors are giving regular weekly service to the domestic oil users.

The domestic fuel oil burner users that were sold on oil by a legitimate salesman, who explained the oil burning problems and were informed that the burning of oil is superior because it is clean and eliminates the manual labor connected with firing a furnace as well as being convenient, are satisfied but eventually want to be able to use an oil that can be bought for considerably less money. The consumer that was sold by a so-called high-pressure salesman on a money-saving basis as compared with coal of course is dissatisfied and a knocker. The burning of oil should not be compared with burning of coal, as there is no comparison in the cost, but should just be compared with burning of gas. The individual that is sold an oil burner at the present time has everything explained thoroughly to him so that there is no room for a misunderstanding.

STANDARD REPLIES TO UNIVERSAL SUIT

(Continued from Page 34)

antedated by the Dewar and Redwood patent, No. 10,277 (British), of 1889, this having been cited by the examiner against Dubbs' application. The Dewar and Redwood patent, according to the answer of counsel for the Indiana company, "discloses a process in which the injection of extraneous gases would be stopped as soon as the increase of pressure from the evolution of the vapor within the still made it evident that further pumping in of the extraneous gas was not necessary to keep up the predetermined pressure; that in fact no proceeding could well be imagined more absurd than to keep on pumping an inert gas whilst letting it escape through the safety valve, as would have to be done if the pressure was to be kept constant; that from the disclosure in the said Dewar and Redwood patent these patentees (Dewar and Redwood) in fact contemplated that after a certain period in the distillation had been reached, they would rely upon the vapors evolved to supply the needed pressure."

The answer further states that "this interpretation of the disclosure of the said Dewar and Redwood patent was maintained by the examiner in the actions preceding the issue of the patent in suit, and it was with that interpretation acquiesced in by the applicant, that claims 8, 9, 10 and 11 in the said letters patent No. 1,123,502 here in suit were allowed.

Adams and Lang Patents

Joseph H. Adams and James S. Lang are claimed by the defendant to be the inventors of the alleged invention of letters patent No. 1,123,502, and all material parts thereof, issued to Jesse A. Dubbs. The defendant further avers that in his patent Dubbs disclosed less than the whole truth relative to his invention and more than was required to practice and produce the intended effect of his said alleged invention or discovery; that claims 8 to 11, inclusive, of letters patent No. 1,123,502 are for an invention that Dubbs had not conceived at the date of his application, are for new matter and are therefore null and void; that the matter covered in claims 8 to 11, inclusive, was not claimed as the invention of Jesse A. Dubbs in his original application and it was not supported by any oath of Dubbs as required by statute.

Because the application that materialized into Dubbs' basic patent was kept pending in the patent office for five years, the answer further goes on to state that this was done so as to include and cover from time to time in the pending applica-

(Continued on Page 109)

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Oklahoma Furnace Oil Specifications

Coming Season Will See Lower Flash Distillates Offered. Several Angles to Manufacturing Problem

By W. T. Ziegenhain

As a result of the oversupply of crude and refined oils, principally gasoline, the oil industry has turned its chief attentions to plans of controling production to keep from facing ruinous prices. Another means of accomplishing the same result is to increase consumption. But this latter method is relatively slow acting and could not be developed in a sufficiently short time to right present conditions. Furthermore, the increased consumption of refined products must be in some other field than the automotive or industrial, for each of these are fairly well developed and only a normal, defined increase might be expected with the general development of the country.

Household heating with oil which is yet in its infancy offers a tremendous outlet not only during periods of excess crude production but also should prove a profitable market at all times.

Three Classes

Essentially, there are three distinct classes of burner uses: (1) in private homes; (2) in appartment houses and small public buildings, and (3) in large buildings and industries. Each use requires a specific kind of fuel and a specific kind of burner to best meet the requirements. The last two uses are in a class quite different from the private home for there is usually some one in attendance at all times. The burner in the private home must be self-operating, automatic in the highest degree and dependable and safe. It is this class of use that offers the greatest field for development and although the other classes may be of equal importance with respect to the advantages of oil heating and furnishing an outlet for refined products, the discussion which follows refers principally to household heating.

Possible Market

In the United States there are approximately 23,000,000 private homes and about 12,000,000 of these are in areas having low winter temperatures, away from cheap natural gas or coal and are in the present oil marketing territories. Assuming the average yearly consumption of oil per home is 1,700 gallons there is is a potential outlet for 500,000,000 bbls. of oil each year. At present, estimates from various sources place the burner installations at about 700,000 and on this basis these are using about 28,700,000 bbls. of oil annually. It seems reasonable that not more than 25 per cent of the 12,000,000 homes may be considered good prospects by the burner manufacturers at this time because of having to discard some of the present equipment and the added investment and higher operating costs on the oil burner.

Allowing for these factors, there remains about 2,300,000 prospects who will need 94,000,000 bbls. more oil annually. This represents a potential outlet for 11 per cent of all crude oil being refined in this country. The benefits that would accrue to the oil industry through the development of this use are obvious. Such an outlet would be consistant, dependable and of sufficient size to dampen the effects of overproduction which the industry has had to contend with for the past five years.

Oil Specifications

The refiners have been hesitant about pushing furnace oil sales because of the lack of standardization in the burner design and the uncertainty of the price they could get for the oil. There are more than 500 burner manufacturers making burners of widely different operating characteristics and requiring fuels of a wide range in quality. By referring to the accompanying list of representative burner manufacturers prepared by the Roxana Petroleum Corp. and shown in this article, the truth of the above statement is apparent. This could be expected, however, for a great difference of opinion exists with respect to the most economic type of burner. The manufacturer of the burner capable of burning the heavier fuels points to the great heating value of the heavier oil, while the manufacturer of the one designed to operate on the lighter fuels such as distillates, claims lower installation costs, and greater dependability.

Each type of burner has its field of use and the choice of either type is largely dependent upon the degree to which it must be automatically operated, the duration of the cold weather periods and the intensity of the cold weather. In general, it is understood that up to the present time the burners operating on heavier oils are less dependable on starting than the distillate burners because of the higher flash point and higher viscosity of the heavier fuel oil. On large installations and where the burner will be operated by a fireman the fuel oil burner will be found to be more economical but for the private home, the distillate type has found greater favor.

Dependent on Weather

The duration and the intensity of the cold weather determines the amount of fuel to be needed and obviously, if the weather remains cold continuously over a long period of time the amount of fuel consumed will be high and the fuel oil burner will be favored as it will not be required to start and stop very often, and the temperature of the firebox will never get below the flash point of the fuel.

In the more moderate climates, especially in the fall and spring seasons, the burner may not operate more than 25 per cent of the time and is on and off many times daily. During certain periods of the day it may be idle for several hours at a time. Under these conditions the distillate burner is usually more dependable and has the advantage. With these facts apparent, it seems logical that the refiners should encourage the production and sale of low-flash distillates as well as fuel oil. Contractors and owners of new homes are particularly anxious to point out the "convenience" and "cleanliness" of their oil-burner installations. It opens the basement as a play room and has the effect of adding another room to the house. Anything that promotes comfort will gain popular support even at a higher cost when necessary.

The problem of the burner manufacturer is to give continuous satisfaction in the sale of his burner and this is largely dependent upon the oil used. In the design of the many makes of burners now on the market, the confusion in the oil specifications is apparent and this has been caused by the varying statements of refiners with respect to the most economical oil to supply. At first, the use of heavy fuel oil was suggested because of its greater heating value and availability, but as trouble developed in the design and operation of the small burners operating automatically, the refiners were asked for another kind of oil. A standardization program is being discussed but to date there has been no general adoption of specifications by the refiners.

It is true, however, that some refiners who had been selling gas oil as furnace oil expect to supply a light distillate over the coming winter season.

Distillate Specifications

The standardization program will probably specify three fuels. They will be an industrial fuel oil for use in those burners best suited for large installations, a light gas oil for those burners operating continuously over long periods and attended to periodically and a light distillate, better termed "furnace oil," for use in the greater share of the private homes where little or no attention is given to the burner. The specifications on the furnace oil probably will provide for a definite distillation range or specify a maximum thermal viscosity, such as 750, and a Tag open cup flash of say 170 degrees Fahrenheit or less. The oil should have a good odor and be free of water and sediment. Simple, essential specifications will encourage the manufacture of furnace oil and it can be made more readily available at a lower cost. For this reason the gravity and color specifications should be omitted.

Manufacturer's Viewpoint

Some refiners object to manufacturing a light distillate because of the loss incurred in the gasoline yield and the higher treating costs. On the other hand, a plan of making furnace oil may be worked out which will yield the same or higher revenue to the refiner and the details in general are outlined in the accompanying tables.

In working out this example certain assumptions had to be made but these are in agreement with general Mid-Continent refinery practices. In the one case the revenue from the refined oils from a barrel of average Mid-Continent crude run to a maximum yield of U. S. Motor gasoline and no furnace oil is compared with the same revenue when that barrel of oil is processed to make 400 endpoint gasoline and 10 per cent furnace oil. When making the 400 endpoint gasoline a great portion of the fraction that would normally go into the 437 endpoint gasoline would go into the kerosene cut but as there is no need for a greater kerosene production, the percentage yield is held the same, namely, 7 per cent in each case. The furnace oil cut of 10 per cent is made up of a portion of the heavy ends of the normal cut of U. S. Motor gasoline, part of the heavy ends of the kerosene cut and the balance from what usually goes to the pressure stills as a cracking stock or as recycled pressure distillate bottoms. The manufacture of 100 per cent pressure furnace oil proves to be very economical, for it is more difficult to crack recycled pressure still products than the raw oils, at least after a definite concentration of the recycled stock in the charging stock is reached.

The gasoline yield was assumed at 45 per cent when making U. S. Motor gasoline and was lowered 4.5 per cent when making 400 endpoint gasoline. At first this seems contradictory to the present trend of conservation in speaking of the "higher" uses of oil fuel, but what better

TABLE 1
Gross Revenue From Refined Products per Barrel of Crude
(Based on present spot prices except assumed price for furnace oil and price of 400 endpoint gasoline set at ¼ cent above U. S. Motor.)

Making 400 Endpoint Gasoline and 10 per Cent Furnace Oil

Product and Quality—	Per Cent Yield	Price per Gallon	Revenue per Barrel Crude
Gasoline, 400 endpoint	40.5	$.0675	$1.148
Kerosene, 42-43 gravity, 150 flash	7.0	.045	.132
Furnace oil, 175 flash	10.0	.035*	.147
Fuel oil, 16-20 gravity	30.5	.021	.269
Lubs and miscellaneous oils, 200 viscosity	7.0	.105†	.308
Loss	5.0	.....	.....
Total gross revenue			$2.004

Making U. S. Motor Gasoline and No Furnace Oil

Product and Quality—	Per Cent Yield	Price per Gallon	Revenue per Barrel Crude
Gasoline, 437 endpoint	45.0	$.065	$1.230
Kerosene, 41-42 gravity, 170 flash	7.0	.045	.132
Fuel oil, 16-20 gravity	36.0	.021	.317
Lubs and miscellaneous oils, 200 viscosity	7.0	.105†	.308
Loss	5.0	.....	.....
Total gross revenue			$1.987

*Assumed—Present price on 38-40 distillate $.0312 to $.0325.
†Present price 200 viscosity 3 color Mid-Continent lub oil.

TABLE 2
Gross Revenue From Refined Products per Barrel of Crude
(Based on average 1926 spot Group 3 prices except assumed price for furnace oil, and price of 400 endpoint gasoline set at ¼ cent above U. S. Motor.)

Making 400 Endpoint Gasoline and 10 per Cent Furnace Oil

Product and Quality—	Per Cent Yield	Price per Gallon	Revenue per Barrel Crude
Gasoline, 400 endpoint	40.5	$.1056	$1.796
Kerosene, 150 flash	7.0	.0727	.214
Furnace oil, 175 flash	10.0	.0525*	.221
Fuel oil, 16-20 gravity	30.5	.0290	.372
Lubs and miscellaneous oils, 200 viscosity	7.0	.1072†	.315
Loss	5.0	.....	.....
Total gross revenue			$2.918

Making 437 Endpoint Gasoline and No Furnace Oil

Product and Quality—	Per Cent Yield	Price per Gallon	Revenue per Barrel Crude
Gasoline, 437 endpoint	45.0	$.1023	$1.950
Kerosene, 170 flash	7.0	.0727	.214
Fuel oil, 16-20 gravity	36.0	.0290	.439
Lubs and miscellaneous oils, 200 viscosity	7.0	.1072†	.315
Loss	5.0	.....	.....
Total gross revenue			$2.918

*Assumed—Average price on 38-40 distillate for 1926 was $.0473 per gallon; high, $.055; low, $.0375.
†Average 1926 price on 200 viscosity 3-color Mid-Continent lub oil.

DISCUSSION CONTINUED

The accompanying article is the fourth of a series by staff representatives of The Oil and Gas Journal on the general subject of "Furnace Oils for the 1927-1928 Season." Articles by J. B. Waldo of the Chicago area and L. M. Fanning of the New York area appeared in the June 9 issue. A third article was published in the June 16 issue by Neil Williams of the North Louisiana and Arkansas area.

In this issue Mr. Ziegenhain continues the discussion with data dealing with manufacturing costs in Oklahoma. A fifth article by George A. Whitney of the Toledo area appears on page 72.

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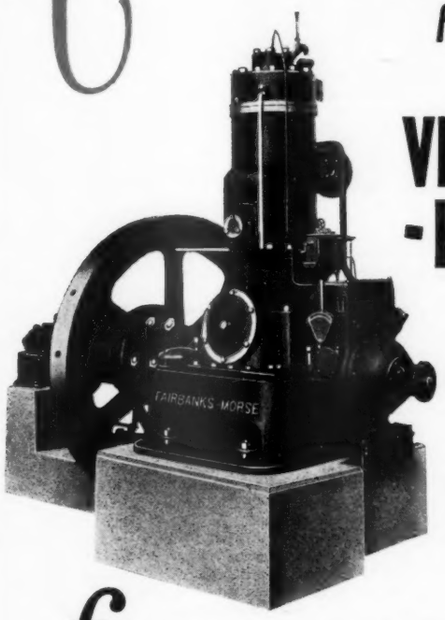

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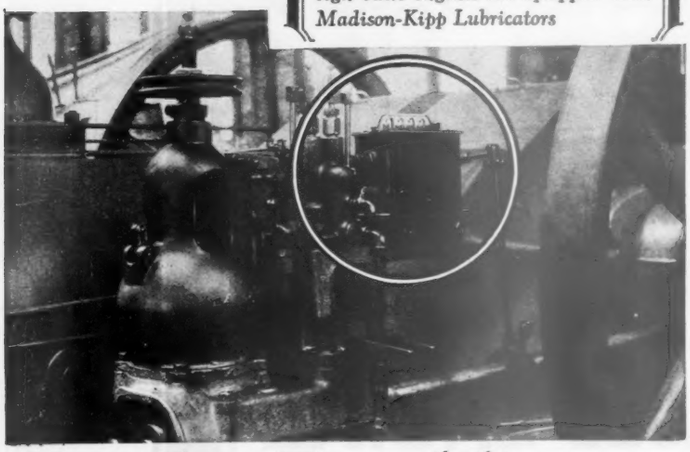

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use could be found for our natural resources than to supply comfort and health to American home owners. When confronted with the fact that the heavier oils can be used for heating, it is conceded that this may be possible eventually, but this may also be applied to power generation and for the same reason the motorist demands a fuel which supplies "pep" and smooth operation in his car, so will he ultimately demand a fuel in his home that gives the highest degree of comfort and dependability.

Tables Explained

Practically, the revenue from each method of operation should be nearly equivalent under all reasonable price structures and in the examples shown, the one set of figures is based on the present spot prices, which may be considered relatively low, while the other set of figures is based on the average spot prices over 1926 which are relatively high.

Under each price structure the same price was used for kerosene when making furnace oil and when not making it, but it is probable that a slightly higher price could be obtained when making furnace oil because of the better quality of the kerosene. The same prices were used on fuel oil and lubes under the two methods of operation because the quality of these will remain the same. In each case the price of the 400 endpoint gasoline was assumed to be one-fourth cent above the U. S. Motor and this seems conservative for there is 10 per cent less gasoline to be sold.

The furnace oil price is comparable to the prices quoted on 38-40 distillate. In the analysis using the present price structure, the furnace oil price was assumed as 3½ cents per gallon while the present price on untreated 38-40 distillate is 3⅛ cents. In the analysis using the 1926 average prices, the furnace oil price is assumed as 5¼ cents, the average price on the 38-40 distillate being 4¾ cents, the highest 5½ cents and the lowest 3¾ cents.

Because of the lower flash and having to treat the furnace oil, these price differentials appear reasonable. The refiner is due a price on furnace oil commensurate with its cost of manufacture and equivalent to the price he could get for it as an alternate product, but in the few years this class of material has been on the market, there has existed such a variety in quality that those refiners making the better quality oil were forced to take low prices in competition with the inferior grades. This was brought about principally as a result of contracting for the oil early in the season and without full appreciation of the difference in quality. As the season for consumption developed, the sales on the poorer quality oil did not increase in proportion to the sales on the better quality and as a result of the lack of a standardization, both parties were losers.

Standardization

This year there is a decided tendency among the Mid-Continent refiners to set up specifications in closer agreement with each other and they are favoring the production of furnace oil with a flash of 175 or less, and a gravity between 36 and 39 degrees. The difference in the cost to the refiner between the low flash oil and the high flash oil is so small it has but little effect on the delivered cost to the consumer and he is not the one who is leading the price discussion so long as he receives a satisfactory product. If the average home consumes 1,700 gallons of oil annually a difference of one-half cent per gallon amounts to $8.50 a year or not over $2 per month during the four or five months in use. A standardization program of production and a greater sales volume would effect a greater difference on the price than this.

All refiners would not find an outlet for 10 per cent of their production as furnace oil because of the disadvantage in freight rates to the consuming territories but in general the refineries along the north Atlantic Coast, in the Midwest and the Mid-Continent would be benefited most. The one means of building up this market is through the standardization of furnace oil specifications, guaranteeing an entirely satisfactory oil for use in burners which are given but little attention, discouraging sales talks based on specifications that increase refining costs without adding to the quality of the oil and a closer co-operation with burner manufacturers and jobbers in an exchanging of views for the improvement of service and the education of the public.

OPERATING DATA ON DOMESTIC OIL BURNERS

Table compiled by the Roxana Petroleum Corp. showing oil specifications and other information covering 35 burners which have been approved by the National Board of Fire Underwriters Laboratories:

Key to Abbreviations

(1) Method of preparing oil for combustion: (A) Atomizing by compressed air; (B) Atomizing by low pressure air; (C) Atomizing by rotating cup or pan; (D) Atomizing by mechanical oil pressure (E) Vaporizing by hot plate; (F) Vaporizing by generating coils; (G) Atomizing by steam.

(2) Method of obtaining air for combustion: (A) Forced fan blast; (B) Natural chimney draft; (C) Velocity induction of air around burner nozzle; (D) Mechanical induction by rotating burner parts; (E) Positive pressure blower.

(3) Method of ignition: (A) Gas pilot; (B) Electric spark; (C) Oil pilot; (D) Manual torch; (E) Combination gas and electric.

(4) Method of feeding oil to nozzle: (A) Gravity only; (B) Pump only; (C) Combination pump and gravity; (D) Combination pump and suction; (E) Combination gravity and suction; (F) Combination pump, gravity and suction; (G) Air pressure.

(5) Operation and control: (A) Intermittent and automatic; (B) Continuous, hand operated; (C) High low, automatic; (D) High low, hand operated.

(6) Recommended fuel to be used: (A) 24-34 fuel oil; (B) 32-36 gas oil; (C) 36-45 distillate.

(7) Operating mechanism: (A) Motor, electric; (B) Fan or blower; (C) Air compressor; (D) Oil pump; (E) Air motor; (F) Water motor; (G) Vacuum pump.

(8) Safety control: (A) Overflow cup of chamber; (B) Thermostatic control; (C) Oil level control; (D) Shut-off valve; (E) Pressurestat.

(9) Recommended Roxana Petroleum Corp. fuels to be used: (C) 24-26 Fuel oil; (D) 26-28 Fuel oil; (E) 28-30 Fuel oil; (F) 30-32 Fuel oil; (G) 32-36 Fuel oil; (H) 32-36 Gas oil; (I) 37-40 Distillate; (J) 40-41 Distillate; (K) 41-43 Kerosene; (L) 42-44 Kerosene.

A. B. C.—Model E, (1) C, (2) D, (3) A, (4) E, (5) A, (6) BC, (7) A, (8) BD, (9) GHIJKL.

Aetna—Model N, (1) CB, (2) D, (3) AC, (4) B, (5) A, (6) ABC, (7) AD, (8) AB, (9) IJKL.

Aladdin—Model G, (1) AB, (2) A, (3) AD, (4) B, (5) (A), (6) B, (7) ABCD, (8) AB, (9) FGHIJKL.

Atlas—Model A, (1) B, (2) B, (3) D, (4) A, (5) D, (6) C, (8) A, (9) IJKL.

Baker—Model F, (1) BD, (2) A, (3) B, (4) B, (5) A, (6) BC, (7) ABD, (8) A, (9) JKL.

Ballard—Model A, (1) BD, (2) B, (3) ABC, (4) F, (5) A, (6) AB, (7) AD, (8) ABC, (9) EFGHI.

Berryman—Model AL, (1) BE, (2) AB, (3) A, (4) E, (5) A, (6) BC, (7) ABD, (8) BD, (9) GHIJKL.

Caloroil—Model O, (1) A, (2) B, (3) AC, (4) F, (5) AC, (6) A, (7) C, (8) BC, (9) EFGHI.

Chalmers—(1) B, (2) A, (3) A, (4) C, (5) A, (6) B, (7) B, (8) B, (9) GHIJ.

Combustion—Model D, (1) AD, (2) A, (3) A, (4) B, (5) A, (6) ABC, (7) ACD, (9) CDEFGHIJKL.

Electrol—Model T, (1) D, (2) A, (3) B, (4) B, (5) A, (6) B, (7) ABD, (8) B, (9) GHIJKL.

Fess—Model E, (1) BC, (2) A, (3) A, (4) F, (5) A, (6) BC, (7) AB, (9) GHIJKL.

Gill—Model G, (1) AE, (2) D, (3) AB, (4) B, (5) A, (6) B, (7) AD, (8) B, (9) IJKL.

Grant—Model A, (1) B, (2) BD, (3) A, (4) B, (5) A, (6) BC, (7) AB, (8) B, (9) EFGHIJKL.

Gilbert & Barker—Model HBL, (1) D, (2) A, (3) A, (4) E, (5) A, (6) BC, (7) A, (8) B, (9) FGHIJKL.

Hardinge—Model UL, (1) C, (2) D, (3) A, (4) D, (5) A, (6) BC, (7) AD, (8) A, (9) GHIJKL.

Hart—Model C, (1) BD, (2) A, (3) A, (4) D, (5) A, (6) BC, (7) ABD, (8) BD, (9) EFGHIJKL.

International—Model 5-A, (1) E, (2) B, (3) D, (4) A, (5) BCD, (8) AB, (9) IJKL.

Inter-State—Model U, (1) B, (2) B, (3) C, (4) A, (5) D, (6) C, (8) A, (9) IJKL.

Kleen-Heet—Model G, (1) E, (2) A, (3) AB, (4) C, (5) A, (6) C, (7) ABG, (8) ABD, (9) JKL.

Lilibridge—Model 38-D, (1) EF, (2) B, (3) D, (4) A, (5) BD, (6) C, (8) A, (9) IJKL.

May—Model L, (1) D, (2) C, (3) B, (4) B, (5) A, (6) A, (7) ABD, (8) B, (9) IJKL.

Marr—(1) C, (2) D, (3) A, (4) B, (5) A, (6) B, (7) AD, (8) AB, (9) GHIJ.

Nokol—Model L, (1) B, (2) AC, (3) AB, (4) E, (5) A, (6) C, (7) AB, (8) AB, (9) JKL.

Nu Way—Model D, (1) B, (2) A, (3) E, (4) E, (5) A, (6) BC, (7) AB, (8) AB, (9) EFGHIJKL.

Oilheat—Model O-45, (1) E, (2) B, (3) C, (4) A, (5) BCD, (6) C, (8) A, (9) IJKL.

Oil-O-Matic, Model G, (1) BD, (2) A, (3) E, (4) C, (5) A, (6) BC, (7) ABD, (8) BD, (9) GHIJKL.

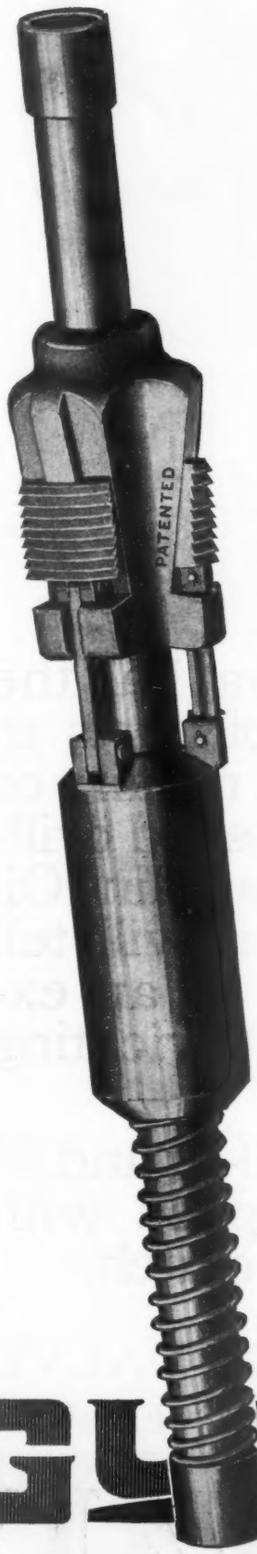
Oliver—Model 30A-36A, (1) E, (2) B, (3) D, (4) A, (5) BC, (6) C, (8) A, (9) IJKL.

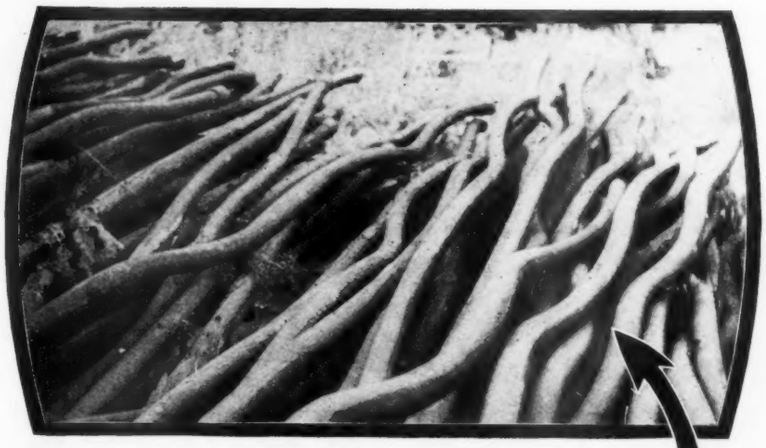
Quinn—(1) E, (2) B, (3) D, (4) A, (5) B, (6) C, (8) A, (9) IJKL.

Ray—Model L, (1) BCD, (2) AC, (3) A, (4) D, (5) AC, (6) ABC, (7) ABD, (8) B, (9) FGHIJKL.

Rotary—Model B, (1) BC, (2) A, (3) D, (4) A, (5) B, (6) BC, (7) F, (9) EFGHI.

Safe Fire—Model 10-A, (1) E, (2) A, (3)





NO MORE OF THIS *for many operators*

Corkscrewed tubing (costing $2,000 to $20,000 per pile) is seen no more about the wells of a growing army of operators who make it a rule to protect *EVERY STRING OF TUBING* with a GUIBERSON CATCHER.

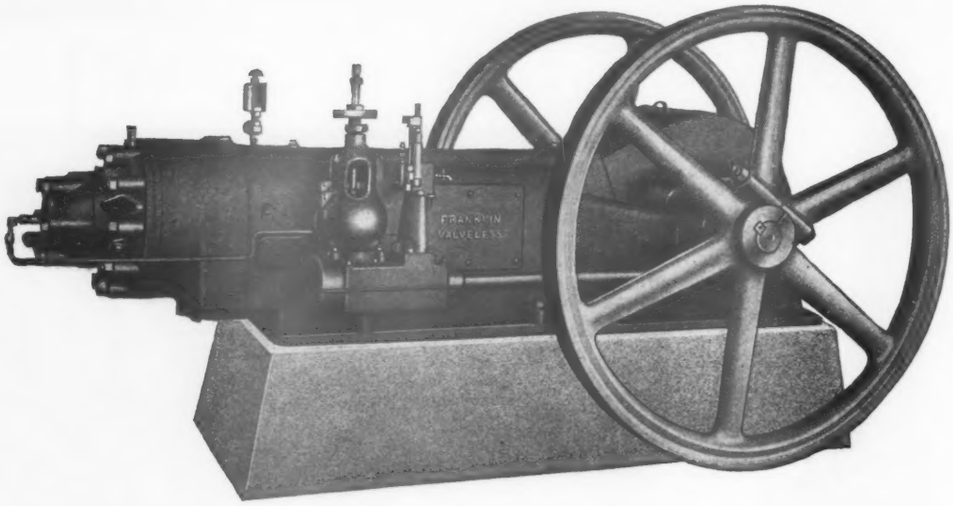
Because the GUIBERSON is the *only* catcher which has a strong spring, heavy striker weight, and dovetail tracks for slips,—it is the *only* catcher which *insures positive tubing safety, under all conditions.*

Fully patented.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas
CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles
402 W. First St., TULSA
321 S. Osage St., PONCA CITY
506 Trust Bldg., NEWARK, O.

GUIBERSON
ER BE SAFE THAN SORRY



THE FRANKLIN
Oil Pumping Engine

HERE is the power plant that has the fewest possible number of parts to require attention, adjustment, repairs or replacement. After you've finished drilling, move in one of the Franklin Oil Pumping Engines. Any user will tell you that it can be operated at an extremely low fuel, water and lubricating cost.

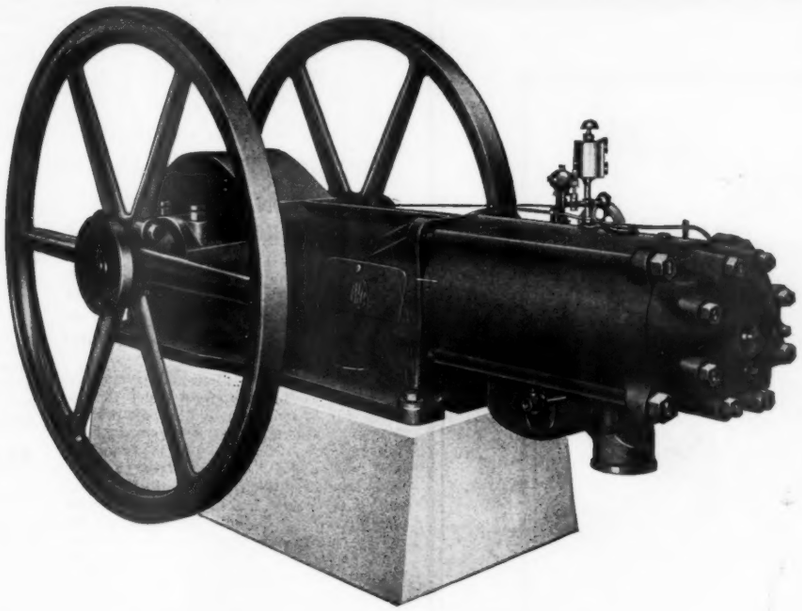
These pumpers come in 30-40-50 and 75 Horse Power. Can be equipped with Reverse Motor and one way clutch.

THE FRANKLIN VALVE

Franklin,

FRANKLIN VALVE

OIL WELL SUPPLY COM



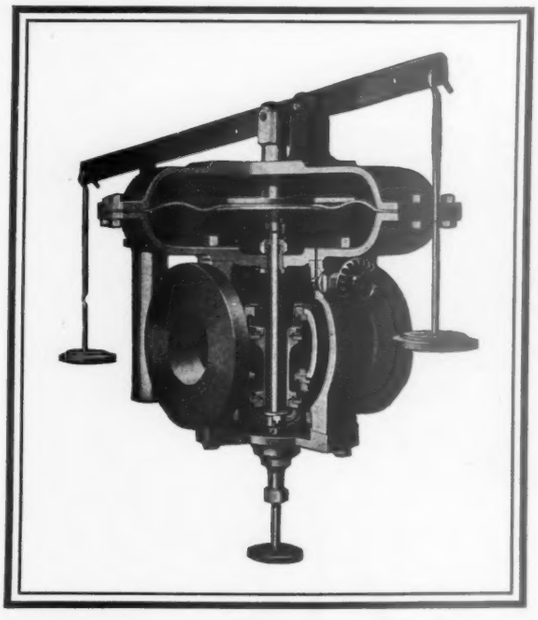
THE FRANKLIN
Gas Pumping Engine

AFTER you've finished making hole, move your Drilling Engine to the next job and hook up a Franklin Gas Pumping Engine. Interchangeable on the same block without shifting a single bolt. These engines can show you a power, speed and flexibility almost unbelievable.

Say good-bye to the old "biler" and learn what real economy and freedom from trouble is like. Ask any Franklin user!

LESS ENGINE COMPANY
Penna.

LESS ENGINES
PANY, Sole Distributor



THE Davis Improved Gas Pressure Regulator is installed in the line without any outside piping, making the simplest and most effective type of installation.

The double-seated, balanced disc seats against a soft leather or oil-proof rubber ring (which is renewable) making the regulator tight when closed and easy to maintain in this condition.

The entire valve and cage assembly can be replaced as a unit when wear reaches a point where repair is necessary. Renewing the valve assembly can be done easily and quickly in the field, without any grinding of the seating surfaces.

The renewable seat rings are easily replaced if required, without disturbing other parts, or requiring excessive labor or repair parts.

Hundreds of representative producers use the Davis Gas Pressure Regulator for automatic reduction of high pressures, (250 lbs. or less) down to service pressures as low as one ounce. This regulator can be furnished for any service pressure specified.

Send for catalogue with full description of the Davis Valve Specialties for oil field service.

G. M. DAVIS REGULATOR CO.
409 Milwaukee Avenue
CHICAGO, ILLINOIS

WESTCOTT & GREIS, *Inc.*
Sales Engineers
Tulsa Los Angeles Dallas

DAVIS VALVE
STEAM SAVERS SINCE 1875
SPECIALTIES

O&GJ 6-23 Gray

A, (4) B, (5) A, (6) C, (7) ABD, (8) C, (9) IJKL.
Sievert—Model A, (1) E, (2) B, (3) D, (4) A, (5) B, (6) C, (8) AD, (9) IJKL.
Socony Arrow—(1) AE, (2) A, (3) B, (4) D, (5) A, (6) C, (7) ABCD, (8) D, (9) IJKL.
Super—Type B, (1) BD, (2) A, (3) A, (4) A, (5) A, (6) C, (7) A, (8) E, (9) IJKL.
Timken Arrow—(1) AE, (2) A, (3) B, (4) D, (5) A, (6) C, (7) ABD, (8) BD, (9) IJKL.
Wayne—Model W, (1) BD, (2) A, (3) AB, (4) B, (5) A, (6) BC, (7) ABD, (8) BD, (9) GHIJKL.
Worthington—Model A, (1) E, (2) B, (3) D, (4) A, (5) B, (6) BC, (8) A, (9) IJKL.

DEFINITION OF TERMS IN PRESSURE CONTROL

A summary of the terms used in pressure control, prepared by R. R. Brandenthaler, petroleum engineer of the Bureau of Mines, may be of assistance to those not familiar with all.

Pressure Control. The proper manipulation of well pressures in order to produce a maximum amount of oil with a minimum amount of gas, thereby increasing both the ultimate flowing production and ultimate oil recovery from a sand, also in controlling the amount of water which may enter a well. This can be accomplished by holding pressure at the well head when the flow is directed through tubing, by raising or lowering the tubing, by changing the size of tubing by installing a flow nipple or restricting the opening at the bottom of the tubing, by using combination strings of different sizes of tubing, or, by a combination of the different methods.

Rock Pressure. The pressure at the bottom of a well, sometimes called sand pressure.

Casing Pressure. The pressure built up between the casing and tubing when the casing and tubing are packed off at the top of the well. It is usually measured by placing a pressure gauge on one of the side outlets on the casing head.

Tubing Pressure. The pressure in the tubing, sometimes designated flow pressure. Tubing pressures are measured at the top of the well and always on the upstream side of the flow nipple.

Flowline Pressure. The pressure on the down-stream side of the flow nipple.

Differential Pressure. The difference in pressure between the tubing pressure and the flow line pressure. It represents the drop in pressure of the fluid in passing through the flow nipple.

Trap Pressure. Pressure held at the trap, or oil and gas separator.

Shutin Pressure. The pressure noted at the well head when the well is completely shut in. Unless the depth of fluid in the well is known, the pressure at the bottom of the well cannot be determined from the shutin pressure.

Flow Nipple. The restriction placed in the flow line at the well head.

Gas Factor. Also called the gas-oil ratio. The number of cubic feet of gas produced with each barrel of oil, or oil and water. It is a measure of the flowing efficiency of a well.

TEAPOT DOME RESERVE NOT BEING EXHAUSTED

WASHINGTON, D. C., June 18.—Reports that Teapot Dome oil reserves in Wyoming were being exhausted were denied at the Navy Department Saturday. Production is showing only a normal decline, it was said, and the whole is holding up well. Latest report, for April, shows 25,217 bbls. from 61 wells, against 38,959 bbls. from 62 wells in April, 1926, and 31,277 bbls. in March, 1927.

Only two new wells have been drilled since establishment of the receivership, March, 1924, pending outcome of the Government's suit to invalidate Sinclair leases.

Original estimate of 30,000,000 bbls. reserved in the ground holds good, in the opinion of Navy Department officials. Present production, however, does not come from the first sand which developed water, but from the deeper sands.

RECEIPTS OF CALIFORNIA OILS AND IMPORTS OF PETROLEUM

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the month of May totaled 1,610,000 bbls., a daily average of 51,935 bbls., compared with 2,793,000 bbls., a daily average of 93,100 bbls. for the month of April.

Receipts at Atlantic and Gulf Coast ports for the week ended June 4 totaled 557,000 bbls., a daily average of 79,571 bbls., against 153,000 bbls., a daily average of 21,857 bbls. for the week ended May 28.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS
(Barrels of 42 gallons.)

	Total month May	Total month April	Week ended June 4	Week ended May 28
At Atlantic Coast ports:				
Baltimore	324,000	380,000	169,000	75,000
Boston	237,000	131,000	.....	.....
New York	570,000	1,430,000	238,000	78,000
Philadelphia	286,000	453,000	.....	.....
Others	193,000	399,000	150,000	.....
Total	1,610,000	2,793,000	557,000	153,000
Daily average	51,935	93,100	79,571	21,857
Distribution of total California oil receipts is as follows:				
Crude	243,000	*738,000	150,000	75,000
Gasoline	719,000	816,000	245,000	78,000
Gas oil	310,000	148,000	.....	.....
Fuel oil	338,000	*938,000	162,000	.....
Lubricants	.....	58,000	.....	.....
Total	1,610,000	2,793,000	557,000	153,000

*Revised.

According to figures collected by the American Petroleum Institute, imports of crude and refined oils at the principal ports for the month of May totaled 5,890,000 bbls., a daily average of 190,000 bbls., compared with 4,485,000 bbls., a daily average of 149,500 bbls. for the month of April.

Imports at the principal United States ports for the week ended June 4 totaled 1,246,000 bbls., a daily average of 178,000 bbls., compared with 1,248,000 bbls., a daily average of 178,286 bbls. for the week ended May 28.

IMPORTS OF PETROLEUM AT UNITED STATES PORTS
(Barrels of 42 gallons.)

	Total month May	Total month April	Week ended June 4	Week ended May 28
At Atlantic Coast ports:				
Baltimore	652,000	681,000	170,000	62,000
Boston	304,000	271,000	62,000	*.....
New York	2,897,000	1,861,000	703,000	*651,000
Philadelphia	241,000	182,000	20,000	78,000
Others	731,000	797,000	146,000	*148,000
Total	4,825,000	3,792,000	1,101,000	*939,000
Daily average	155,645	126,400	157,285	*134,143
At Gulf Coast ports:				
Galveston district	56,000	152,000	.....	20,000
New Orleans and Baton Rouge	949,000	541,000	145,000	229,000
Port Arthur and Sabine district	60,000	.....	.....	60,000
Total	1,065,000	693,000	145,000	309,000
Daily average	34,355	23,100	20,715	44,143
At all United States ports:				
Total	5,890,000	4,485,000	1,246,000	*1,248,000
Daily average	190,000	149,500	178,000	*178,286

*Revised.

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) Etc.

Beaumont Iron Works Co.
Dreadnaught Rotary Equipment, Water-Cooled Draw Works, Pumping Hoists, Traveling Blocks, Etc.

Carbic Manufacturing Co.
Acetylene Gas Generators and Welding Equipment.

Donovan Boiler Works
Oil Country Boilers and Tanks.

Frick-Reid Service Belting
Rubber Covered and Friction Surface.

Jensen Bros. Mfg. Co.
Pumping Jacks.

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers.

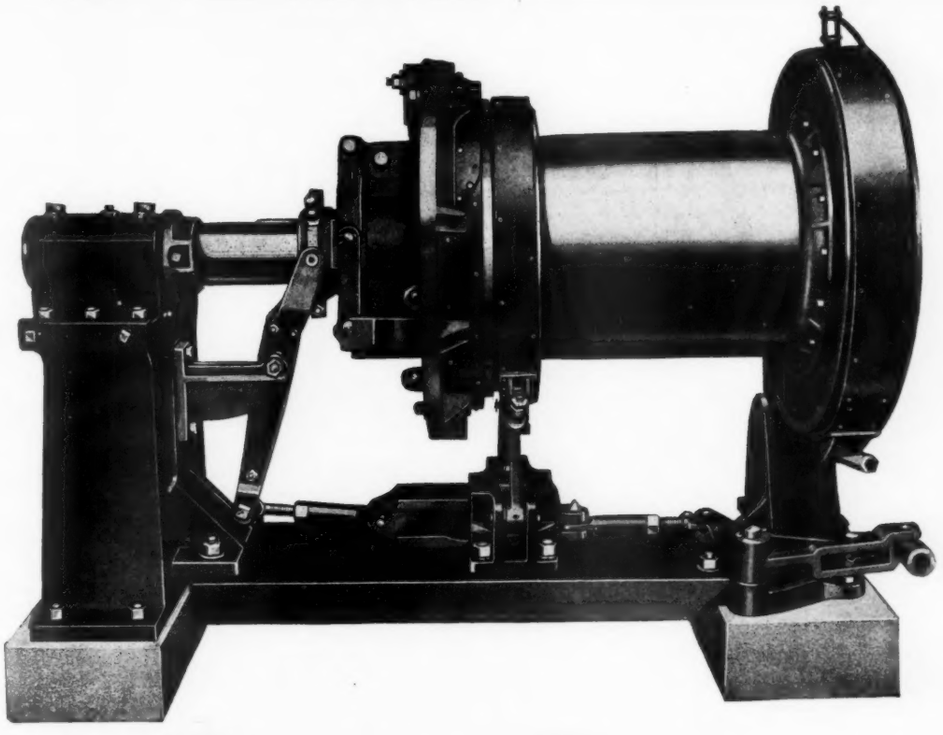
Joseph Reid Gas Engine Co.
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Rossendale Reddaway Belting & Hose Co.
"Camel Hair" Belting, Belt Clamps.

Whitlock Cordage Co.
Manila Cordage, Bull Ropes and Cat Lines.

Lapweld and Seamless Tubular Goods

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.



Heavy Duty Reverse Clutch

THIS Heavy Duty Reverse Clutch can be adapted to other makes, including high speed gasolene engines, although built by Reid and designed primarily for Reid engines. It has great strength and is intended for use with the heavy engines now in vogue.

The solid steel shaft is 5 inches in diameter, 74¼ inches long, turned and ground. The double flanged coupling is of heavy steel.

The 24-inch Reid Friction Band Clutch is made for heavy work. The steel reversing gears and pinions are completely enclosed and operate in a bath of oil.

The brake wheel has a diameter of thirty inches, adequate for long periods of operation. The heavy pulley is of cast iron, with a 20-inch face, and may be had in diameters from 18 to 36 inches. It is equipped with a pulley brake, enabling the operator to hold it at any position.

Forward, reverse and braking positions are controlled with one lever.

The pulley runs on bronze bushings. The brake wheel has a cast iron bushing. Provision is made for easy and positive lubrication.

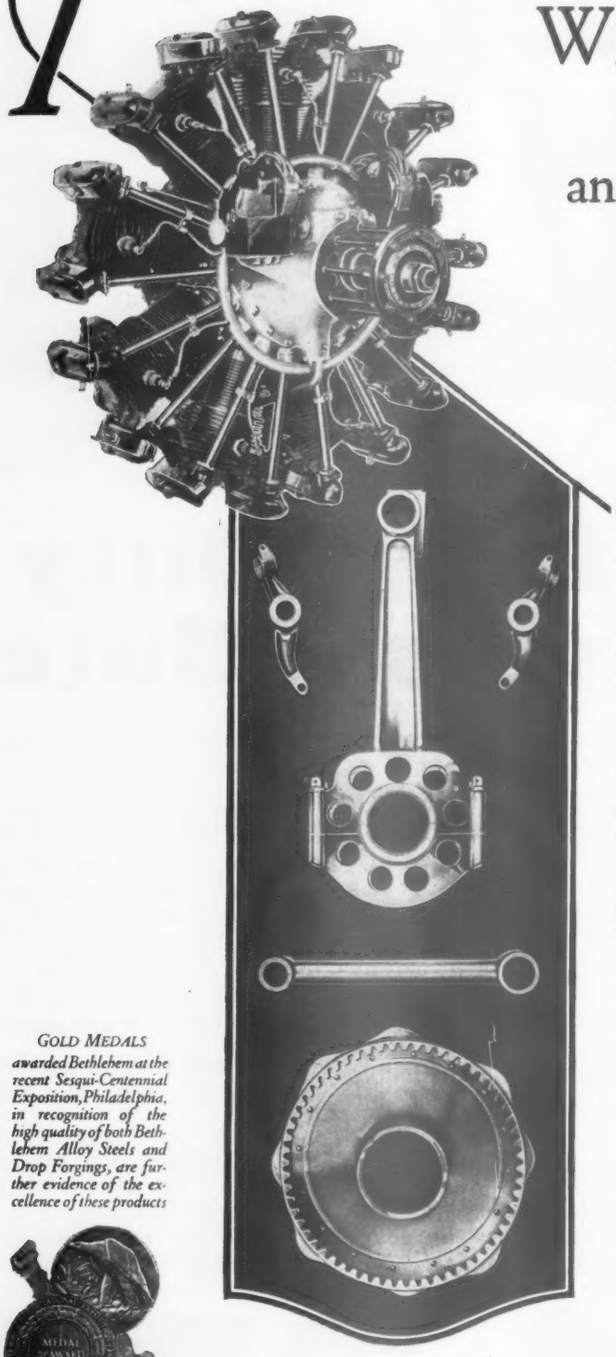
FRICK-REID SUPPLY CO.

Tulsa, Oklahoma — Pittsburgh, Pa.

East of the Mississippi—the Frick & Lindsay Co.

West of the Mississippi—Stores Everywhere

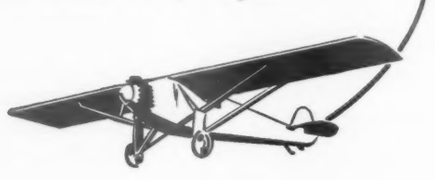
Important Parts of the WRIGHT ENGINES used in Lindbergh and Chamberlin Planes *made of* BETHLEHEM DROP FORGINGS



In the Wright "Whirlwind" Model J-5 Engines, with which the Lindbergh and the Chamberlin planes are equipped, such important parts as Master Rod, Articulated Connecting Rods, Inlet and Exhaust Cam, and Inlet and Exhaust Valve Rocker Arms were made of Bethlehem Alloy Steel Drop Forgings.

These parts functioned perfectly throughout the long continuous strain to which they were subjected, demonstrating the fatigue-resisting and dependable qualities of Bethlehem Alloy Steels.

Bethlehem Alloy Steel Drop Forgings give the same excellent performance in whatever service they are placed.



GOLD MEDALS *awarded Bethlehem at the recent Sesqui-Centennial Exposition, Philadelphia, in recognition of the high quality of both Bethlehem Alloy Steels and Drop Forgings, are further evidence of the excellence of these products*

BETHLEHEM STEEL COMPANY
General Offices: BETHLEHEM, PA.

DISTRICT OFFICES:
New York Boston Philadelphia Baltimore Washington Atlanta
Pittsburgh Buffalo Cleveland Detroit Cincinnati Chicago
St. Louis San Francisco Los Angeles Seattle Portland

Bethlehem Steel Export Corporation, 25 Broadway, New York City
Sole Exporter of Our Commercial Products

BETHLEHEM

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Armstrong County

Meadows and others' No. 1 E. D. Harrell, center of Section 100, Block 6-G, Adain & Goodnight Survey.

Gray County

In Gray County, Prairie Oil & Gas Co. and others' No. 2 Coomley, 330 feet from the east and 986 feet from the south line of Section 57, Block 3, I. & G. N. Survey. Sullivan and others' No. 1-A Chapman, 2,500 feet from the north and 330 feet from the east line of Section 9, E. M. Lynch Survey. Pollard and others' No. 1 J. B. Bowers, 330 feet north and west of SE cor. of the E half of Section 119, Block 2-B, H. & G. N. Survey. Sun Oil Co.'s No. 5 Worley & Reynolds, 330 feet north and east of SW cor. NW SW of Section 83, Block 3. Atlantic Oil Producing Co.'s No. 1-D Combs-Worley, 330 feet south and west of NE cor. NW of Section 34, Block 3. Gray County Oil Co.'s No. 1 A. Chapman, 990 feet from the west and 330 feet from the south line of the S half of Section 70, Block 25.

Atlantic Oil Producing Co. and others' No. 1 Combs & Worley-F, 330 feet north and west of SE cor. of Section 57, Block 3, I. & G. N. Survey. Donley Gray Oil Co.'s No. 1 J. W. Gordon, 330 feet south and east of NW cor. of the S half of SW Section 79, Block 3, same survey. Lefore Petroleum Co.'s No. 1 J. M. Shaw, 255 feet south and 990 feet west of NE cor. of Travis Loach Survey. Roxana Petroleum Corp.'s No. 2 Combs & Worley, 330 feet south and 1,050 feet east of NW cor. of Section 39, Block 3, I. & G. N. Survey; No. 3, 330 feet south and 1,655 feet east of NW cor. of Section 39, Block 3, same survey.

Hutchinson County

In Hutchinson County, Phillips & Heywood's No. 4 H. E. Smith, 990 feet from the south line and 330 feet from the west line of the W half of SE of Section 14, Block Y. Ralph & Baker's No. 1 H. E. Smith, 410 feet from the west line and 330 feet from the north line of the east 80 acres of the NW of Section 10, Block Y. Morrison & Locke's No. 1 H. E. Smith, 330 feet from the north line and 330 feet from the west line of NW SE NE of Section 5, Block Y. Amarillo Oil Co.'s No. 6-B Lee Bivins, 1,317 feet from the south line and 1,332 feet from the west line of Section 90, Block 46.

R. G. Barnum and others' No. 1 J. M. Sanford, 330 feet south and east of NW cor. of north 80 acres of south 320 acres of Section 81, Block 46, H. & T. C. Survey; No. 1 J. M. Sanford-Garland, 330 feet north and west of SE cor. of east 80 acres of north 160 acres of south 320 acres of Section 78, Block 46, same survey. H. Bean and others' No. 1 E. Cockrell, 285 feet north and 255 feet east of the most northerly SE cor. of Section 3, Block 23, B. S. & F. Survey.

Wheeler County

In Wheeler County, Angus and others' No. 1 H. V. Vermillion, 330 feet north and east of SW cor. NW SW of Survey 80, H. & G. N., Block 17.

Angus and others' No. 1 H. V. Vermillion, 330 feet north and east of SW cor. NW SW of Section 80, Block 17, H. & G. N. Survey. The Texas Company's No. 1 G. Bell, 330 feet north and east of SW cor. NW of Section 71, Block 13, same survey.

Potter County

In Potter County, Amarillo Oil Co.'s No. 2-J Masterson, 2,635 feet from the east line and 2,635 feet from the south line of Section 69, Block O-18, D. & P. R. R. Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

Atlantic Oil Producing Co. and J. Rayzon's No. 1 L. F. Wilson, 150 feet north and west of SE cor. of north 40 acres of east 80 acres of west 160 acres of Lot 2, Section 76, A. T. N. C. L. Survey. Atlantic Oil Producing Co. and F. Roso's No. 1 L. F. Wilson, 150 feet south and east of NW cor. of north 20 acres of S half of Section 116, same survey. Pace & Nelson Holding Co.'s No. 7 J. B. Miller-B, 450 feet north and 800 feet west of SE cor. of the N half of Lot 2, Section 21, same survey. Underwood Drilling Co.'s No. 1 W. L. Lucey, 150 feet south and 750 feet east of NW cor. of Section 18, Palo Pinto County School Land, A-339. Empire Holding Co.'s No. 1 A. Berand, 150 feet north and east of SW cor. of Section 70, Block 4, out of Clark & Plumb Subdivision. Pandem Oil Corp.'s No. 1 W. H. Thomas-B, 1,350 feet north and 150 feet west of SE cor. of Lot 2, of the North Subdivision, out of N. Thomas Survey, A-454.

Brewster County

In Brewster County, McPhail & Kempter's No. 1 Brown, center of Section 43 Block W. J. B. S, T. C. R. R. Survey.

In Reeves County, David R. Thomson's No. 1 A. A. Eddins, center of the east line of Section 10, Block 1-C, Public School land.

McPhail & Kempter's No. 2 McIntyre, 300 feet north and east of SW cor. of Section 3, Block 352.

Brown County

H. D. Croath's No. 1 J. H. Perry, 150 feet north and west of SW cor. of J. R. Lewis' 140-acre tract and located in J. M. Perry's 215-acre tract out of James Kenney Survey, No. 624. McKanna and others' No. 20 J. W. Shore, 1,900 feet south and 150 feet east of NW cor. of their 70-acre lease out of Charles I. Betts Survey, No. 625; No. 21, 1,815 feet south and 450 feet west of NE cor. of their same 70-acre lease. The Texas Company's No. 84 Mrs. R. M. Lowe, 685 feet north and 2,850 feet east of SW cor. of George Stubblefield Survey, No. 622. Wentz Oil Corp.'s No. 21 J. W. Shore 2,310 feet south and 150 feet west of NE cor. of west 24 acres of Charles S. Betts Survey, No. 625. Henshaw and others' No. 1 J. D. Caldwell, 150 feet north and west of SE cor. of Section 11, Kerr County School Land. Hurley Oil Co.'s No. 1 J. D. Davis, 150 feet north and east of SW cor. of J. D. Davis' 180-acre tract out of Section 41, same school land. Lake Petroleum Co.'s No. 1 Mattis R. Coggin estate, 300 feet NW of SE line and 2,000 feet NE of SW line of Mattie R. Coggin estate's 640-acre tract out of James Winn Survey, No. 138. Mexana Oil Co.'s No. 1 R. E. McCormick, 150 feet north and west of SE cor. of the N half of Section 13, Stuart Perry Survey, No. 195.

Ryan and others' No. 3 R. L. Brooks, 1,470 feet south and 1,170 feet east of NW cor. of R. L. Brooks' 330-acre tract out of Julian Hernandy Survey, No. 350. J. H. Simms and others' No. 1 W. D. McChristy, 150 feet north and east of SW cor. of the N half of W. D. McChristy's 160-acre tract out of Section 70, Kerr County School Land.

Callahan County

Navarro Oil Co.'s No. 3 Bennett & Booth, 450 feet north and 150 feet west of SE cor. of east 40 acres of the N half of Section 99, Comal County School Land.

Coleman County

Roth & Faurot's No. 2 Sealy & Smith, 330 feet south and 1,590 feet west of NE cor. SW of Section 19, Block 1, G. H. & H. Survey. Brook & Jameson's No. 1 Henry Beck, 150 feet north and east of SW cor. of A. C. H. & B. Survey, No. 97.

Cooke County

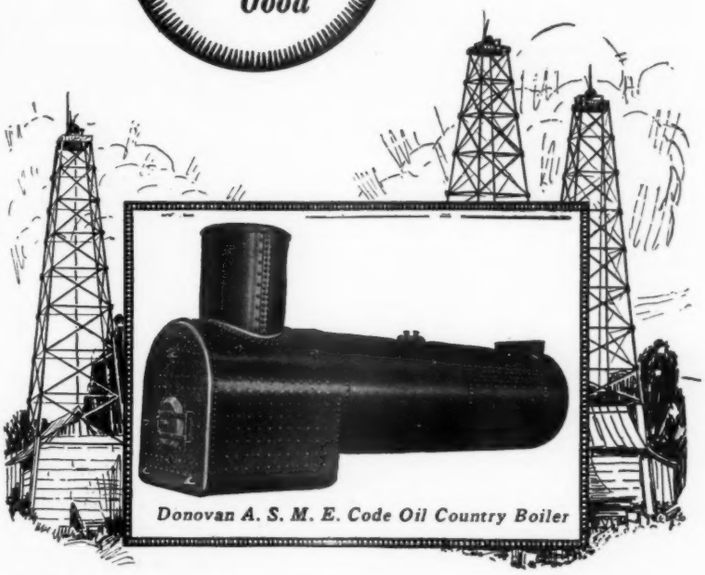
Camp-Hedrick and Oil Operators Trust Co.'s No. 6 M. J. Kleiss, 450 feet south and 150 feet east of NW cor. of M. J. Kleiss' 117-acre tract out of J. W. Littleton Survey, A-586. Gainesville Oil & Gas Co.'s No. 1 Stoffel, 150 feet north and east of SW cor. of Block 58, Town

(Continued on Page 164)

OIL BATTLESHIP FASTEST

Conversion of the Battleship Florida from a coal to an oil burner has rendered her the fastest battleship in the navy, and she attained a speed of 22.32 knots on her standardization trial, made recently, the Department of the Navy announces.

Donovan Boilers are Consistently Good



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for fast and easy steaming

Donovan boilers are wonderful steamers. We have always claimed that fact and not without reason and proof. The reason is that the Donovan is designed to be an easy steamer, economical on fuel. The proof is the result of trials.

On one occasion, after having been shut down for a week or so, a Donovan, 80 H.P.-175-lb. Code boiler was filled with cold water. Steam was needed in a hurry, yet low pressure gas was the only fuel available.

Within half an hour after lighting the fire the boiler was carrying 100 lbs. steam. The owner was both surprised and pleased. Other boilers in the same station were soon removed.

This is just another example of what a DONOVAN can do. It is their creed to give much and demand little. This is built into every DONOVAN boiler.

They not only steam easily and quickly on little fuel, but they hold the pressure surprisingly. Your men never have to wait for steam when DONOVANS are on the job.

DONOVANS can save you money by reducing delays and fuel bills.

Manufactured by

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Mid-Continent Distributors

GREAT NORTHERN TOOL & SUPPLY CO

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All Leading Supply Houses Throughout the Eastern Fields Handle

DONOVAN QUALITY PRODUCTS

NONE BETTER

Oil Supply for Burner Use Assured

Demand for Distillates for House Heating and Diesel Engines Offers Market for Overproduction, Not Competitive With Coal

By L. M. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

The present overproduction situation puts at rest for some time the shortage bugaboo, and there are definite indications that the industry for the first time can go forward on the theory that enough oil will be available to permit a systematic and aggressive expansion of sales in such comparatively new fields as the home oil burner and the Diesel engine markets.

For several years the manufacturers of home oil burners have been trying to get some kind of assurance from the oil industry that a sufficient quantity of furnace oil would be available at reasonable prices over a period of years. The difficulty of giving such assurances are easily recognized, but in practice the petroleum industry has given impressive guarantees and now should look to such fields of consumption as furnishing immediate, logical and economic relief for the present overproduction situation.

During the past five years the oil burning manufacturing industry has developed into a $50,000,000 business. The expansion in the use of home oil burners in the past three years while particularly impressive, is, it is believed, only the start of recognition on the part of the American public of an agency of convenience and comfort and utilization comparable to the automobile.

While several oil companies have demonstrated their confidence in the future of oil house heating by themselves developing and selling oil burners and generally throughout the country making and marketing furnace oil, there has been no general industry movement to accelerate this outlet for a petroleum product.

Field for Distillates

It is largely true that during the past few years the principal product demanded has been gasoline, and everything else, except in special cases lubricating oils and waxes, has been treated as by-products. Henry L. Doherty four years ago declared that here had been no real salesmanship devoted to anything except lubricating oils and specialties, and that the gasoline content of the oil had to bear practically all of the expenses of the industry.

At that time he stated that an intelligent and aggressive campaign for the development of apparatus for consumption of heavy products, and an aggressive campaign to secure the use of oil wherever it has an advantage over other fuels, would increase the revenues of the American oil industry as a whole by more than $1,000,000,000 per year for the same amount of oil the industry was then selling.

In a constantly widening circle the petroleum industry is now coming to recognize that it can build up a profitable and increasing business in distillates for house furnaces and for internal combustion engines, other than automotive engines.

One of the most conservative companies in advocating the expansion of oil use for house heating has been the Standard Oil Co. of New Jersey. This company is now emphasizing the importance of this and the Diesel oil market as affording relief in the present situation, and officials have expressed the belief that future supplies are assured.

Not Competitive with Coal

The consumption of distillate oils in the direct generation of power, such as in Diesel engines, or for domestic heating and like purposes, they state, gives it a special value not competitive with coal. With the assurance that supplies will be available over a long period at a reasonable price, they note that these markets are susceptible of large expansion, and add:

"Their rapid development is important not only to provide an outlet for surplus production, but also in reduction of the present large stocks above ground. The industry in allocating a part of its supplies to these superior uses and should be willing to enter into contracts for delivery over longer periods than heretofore.

"Once the industry itself recognizes that there will always be a production of fuel oil, the status of that product will be immediately changed. It should come into general use for superior purposes, at a price which will be profitable, and which will exert a favorable influence upon the value of crude and its products."

Frank A. Howard, president of the Standard Development Co., subsidiary of the Standard Oil Co. of New Jersey, referring to the fears that the oil burner manufacturing industry might be fighting a lost cause in its dependency on oil supplies and in its development might be throwing on the oil industry a burden which it could not carry and which would be disastrous to both industries, states that in his opinion this period of doubts and fears is now over. His reasons follow:

Gas Companies Show Way

First, the success which the artificial gas companies have met with in the sale of automatic gas-firing boilers for household heating has demonstrated that the public is willing to pay a high premium to be relieved of the limitations of coal as a fuel. Neglecting for a moment the question of efficiencies, one cent will buy from 5,000 to 8,000 B.t.u. in the form of artificial gas, at representative prices of from 70 cents to $1.10 per 1,000 cubic feet of 550-B.t.u. gas. One cent will buy from 17,000 to 22,000 B.t.u. in the form of anthracite stove coal, at representative prices of $13 to $17 per ton. It is therefore demonstrated that considerations other than the bare cost of heat units per $1 justify paying a premium of as much as 200 per cent for a fuel which lends itself to more efficient and convenient utilization. The engineering world has long accepted liquid fuel as a substantial equivalent of gas for general industrial heating purposes. The modern domestic oil burner has transferred this equivalence into the field of domestic heating.

From which it appears that the demonstrated economic and commercial value of petroleum products suitable for use in domestic oil burners, up to a limit which only time can fix, but certainly far ahead of any present expansion in this business, lies between 1 cent per pound. the substantial equivalent price compared with coal, and 3 cents per pound, the equivalent price compared with gas. At the lower figure the actual fuel bill for oil for domestic heating should be, on the average, the same as or slightly lower than coal. At the higher figure it is demonstrated that the higher efficiency of utilization, the convenience and cleanliness, the elimination of labor, and the ability to obtain a kind and degree of control which seems to be impracticable of attainment with coal will still leave a great market, the extent of which has only begun to be appreciated.

Mr. Howard thinks therefore that the oil industry accepts the domestic burner market as placing a value on petroleum products somewhere in the range of 7 cents to 22 cents per gallon at the present time. The conservative lower and middle ground of this range is in itself sufficiently wide to take care of any variations in the price of oil which have been met with during the automobile era. We have then only to consider whether the foreseeable factors influencing the future are likely to take petroleum products into a price range outside the limits given.

Confidence in Supplies

Second, on the question of supplies of crude petroleum which will be available in the future, we have to accept two apparent inconsistencies:

The first is that neither at the present time nor at any time in the past have we been able to set up as a known and measurable recoverable petroleum reserve any amount of oil which would be adequate to our requirements, even for present markets, for a generation ahead.

The second fact is that the actual production and actual measurable recoverable reserves appear to have kept pace from year to year with requirements, no matter how rapidly the latter expanded, and, in addition to this, each year adds to our knowledge of, and confidence in the availability of, potential reserve. Some of the more important factors in this latter situation at the present time are as follows:

The advance in the science of geology, coupled with real evidence of the value of geophysical exploration methods, greatly increases our confidence in our ability to locate new oil deposits.

Intensive production methods continue to make progress and to increase the rate of production and the probable per cent of recovery of oil from known deposits.

The estimated costs of producing petroleum substitutes from shale and from low-grade coals have been revised downward from year to year.

Foreign oil production appears to be able to keep pace relatively with increased foreign demand, indicating that the United States will not be called upon to carry more than its present proportion of the world's demand for petroleum products.

Increased Efficiency in Use

Third, as to the nature and extent of probable future demand, two great technical developments point the way to an increased efficiency of utilization of liquid fuel which should go far toward counteracting the increased consumption which would result from expansion along present lines.

The first of these developments is the substitution of the Diesel type of internal combustion engine for the steam boiler and steam engine in marine, rail and industrial service. This results in a saving which should, in the long run, be nearly equal to 50 per cent of the liquid fuel requirements of the world for power purposes.

The second development is the demonstration of the increased efficiency of automobile-type internal combustion engines which can be obtained by the use of antiknock motor fuels, going side by side with a commercial development of these fuels which is just now beginning to be felt. Here again it is not too optimistic to say that a curtailment of demand per consuming unit of certainly not less than 25 per cent and, perhaps, as much as 40 per cent, can be accomplished, and will be accomplished if liquid fuel prices justify a serious effort to effect the saving.

Regardless of how much weight is attached to any one of these considerations, the cumulative effect is to create a confidence in the future of oil, the adequacy of the supply, and the stability of the demand, which confidence is greater than at any time in the past. The new elements of flexibility which affect both the supply and the demand, and which are mainly the result of scientific advances, are the real underlying cause for this optimism. The optimism which Mr. Howard feels as to the second and third sides of the picture is, he believes, general in the oil industry and constitutes a sound basis for the conclusion that there is no reason to believe that the oil industry will not be able to supply petroleum products in any quantity which can now be foreseen, for domestic heating purposes, and at a price level well within the range of the demonstrated value of such products for this use.

TREATISE ON COUNTERBALANCING FROM ENGINEERING STANDPOINT

By Mark P. Burke

Many articles have been written during the past few years regarding the proper methods used in counterbalancing pumping wells. These articles vary greatly as to the advantages and disadvantages of the reciprocating type of counterbalance and the centrifugal counterbalance or equalizer and, as to the causes of trouble common in oil field work.

It is the writer's desire, in this article, to discuss the pumping of wells from an engineering standpoint; to subdivide and bring out, separately, each part of the operation; to show by power curves the causes of belt and rod trouble, and also to show how the entire pumping operation can be remedied by the centrifugal counterbalance.

The load on a pumping well is unusual as we have the dead load of the rods on both the up and down stroke, with the live load of the fluid on the upstroke only. This load must be transferred by a lever, which in this case, is the walking beam turning on the Sampson post as an axis. By the law of levers, the load imparted is in proportion to the length of lever arms, which are usually equal.

The crank pin is the point at which the reciprocating load is transferred to centrifugal motion by the bandwheel, crank and pitman. The crank and pitman have been in use since the introduction of the steam engine and are still the most efficient contrivance for this purpose.

Pumping Conditions

The pumping condition is identical with both the steam engine and gas engine where the power is produced in reciprocating form and transferred to centrifugal motion by the crank shaft, connecting rods and flywheels.

With the stationary steam engine and the two-cycle or four-cycle gas engine the flywheels are necessary in making this transfer. The steam discharge or gas explosion stores up energy in the flywheels which carry the operation until the next steam discharge or gas explosion occurs.

In the case of the steam locomotive and the gas engine in automobiles, where more than one cylinder is used, the connecting rods are placed at different angles with the crankshaft, the power being delivered at various parts of the revolution in order to give uniform power.

This is the point where the past development is important in oil field work in connection with the centrifugal counterbalance. In order to make the locomotive practical for high speeds and for smooth movement on the tracks it was necessary to place a weight on the drive wheels to counterbalance the weight of the driv-

(Continued on Page 103)

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A PORTABLE 90 H.P. GASOLINE OR NATURAL GAS DRILLING ENGINE

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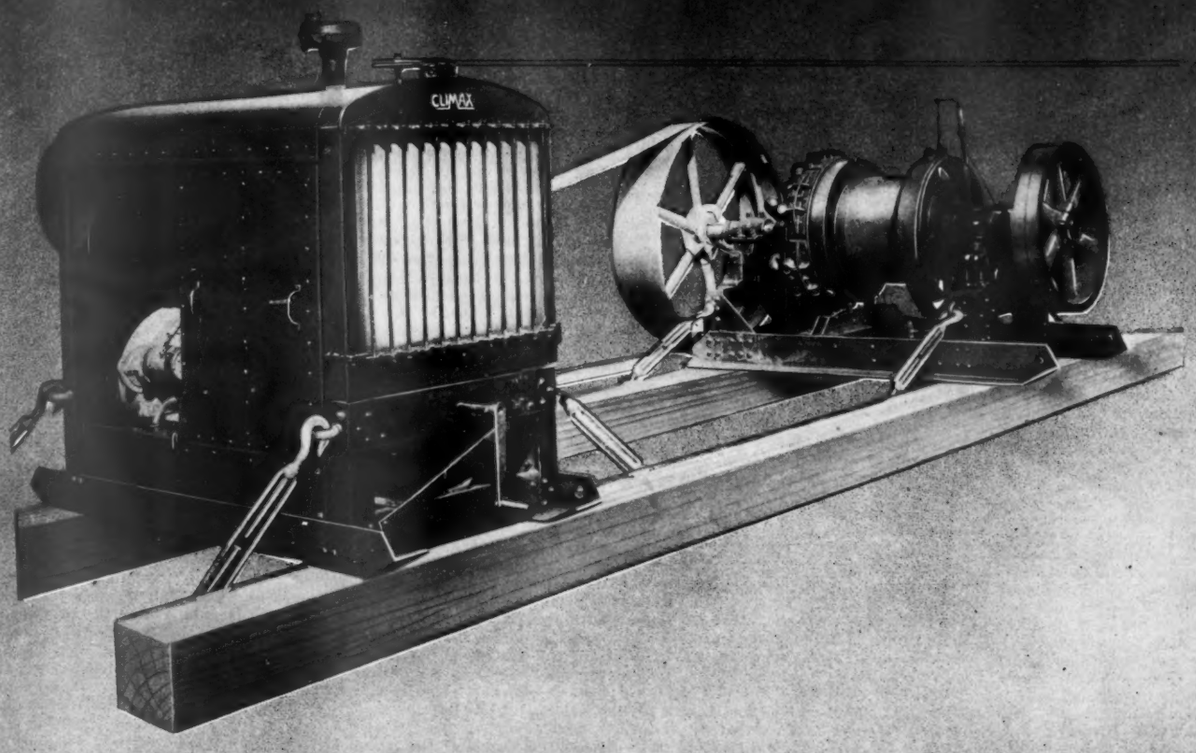

SOUTHWEST TEXAS

(Continued from Page 55)

450 feet to west line and 150 feet to south line, is drilling at 2,640 feet.

Albercas Pool—Webb

O. W. Killam's No. 2 Bruni, Block 65, located 1,470 feet to south line and 470 feet to east line, at 2,168 feet is showing small amount of oil; No. 3 Bruni, Block 64, located 150 feet to north line and 450 feet to west line, is drilling at 3,520 feet.

Aviator Field

K. & S. Corp.'s No. 3 Puig, K. & S. Tract, Puig ranch, Albercas grant, located 578 feet to west line and 993 feet to north line, is drilling. Columbia Petroleum Co.'s No. 14 Puig, Block 77, Albercas grant, is drilling at 1,260 feet.

Carolina-Texas Gas Field

D. J. Simmons' No. 2 de la Garza, Survey 335, Block 8, located 150 feet to SW cor., is standing at 400 feet. Ward and others' No. 1 Webster, NW NE NW, Survey 684, located 150 feet to NW cor., is drilling at 2,620 feet. Houston Oil Co.'s No. 1 Barnsley, Survey 268, Block 9, located 150 feet to SW cor., is whipstocking out at 1,865 feet.

Cole Gas Field—Webb

Cole Petroleum Co.'s No. 44 Benavides, Survey 411, Block 5, located 639 feet to north line and 682 feet to east line, was brought in at 2,322-39 feet a large gasser but had a leak in the 6⅝-inch casing and well was killed and cemented in full string of 5⅜-inch casing; No. 46 Benavides, Survey 412, Block 5, located 1,032 feet to east line and 433 feet to south line, has been spudded in; No. 47 Benavides, Survey 412, Block 13, located 160 feet to east line and 450 feet to south line, is standing waiting on rig from the No. 44 Benavides.

Mirando Valley Pool—Zapata

The Texas Company's No. 6 Jennings, Cerrito Blanco grant, located 7,200 feet to northwest lines and 16,800 feet to southwest lines, is drilling at 1,050 feet.

Charco Redondo Pool

Duke and others' No. 3 Martinez, Block 22, Duke-Langford Subdivision, Charco Redondo grant, 150 feet to southeast and southwest lines, is rigged up. Harlingen Oil & Gas Co.'s No. 5 Martinez, located 750 feet to southwest lines and 150 feet to southeast of Hull test, near the Corrigan ranch, is testing at 1,021 feet.

Rockdale Field—Milam

Noack Oil Co.'s No. 7 Seelke, T. J. Chambers Survey, is a location 300 feet southeast of No. 6. Michalk & Clark's No. 1 W. T. Johnson, J. J. Acosta Survey, at 450 feet to NE cor., is wildcat test, 4½ miles north of Thorndale, with derrick partly erected. Noack & Laning's No. 1 Neeley, William Allen Survey, located 150 feet to SE cor., is rigged up ready to spud in. Lowenstein Oil Co.'s No. 3 well, in new southern extension, is drilling. W. A. Jones' No. 1 Smith, T. J. Chambers Survey, is location 150 feet to northeast lines and 810 feet to southeast lines. Kent & Middleton's No. 1 Arnold is drilling in the southern extension south of Rockdale. Noack & Laning's No. 2 Rowland, Rockdale Survey, 383 feet north of No. 1, is ready to drill in. Yegua Oil Co.'s No. 1 Richards, J. H. Smith Survey, in lower central part of county, is rigged up ready to spud in for deep test, contract depth 3,500 feet. Glas Brothers and others have made location for deep test in vicinity of Hicks. Rockdale Development Co.'s No. 3 Lorenz, Thompson Survey, 300 feet east of No. B-2, is setting casing. Groneman Brothers' No. 1 Key, Houston & Prewitt Survey, is drilling. McCormick & Noack's No. 1 Taylor Wooten, is drilling. Coffield & Hale's No. 1 Shelton is location south of Rockdale. Fritz Fuchs' No. 3 Lon Hudson is drilling. Noack & Laning's No. 1 Dymke, William Allen Survey, NE cor., is standing and looks like a dry hole. Coffield & Hale's No. 1 Alford, north of Rockdale on the Brushy road, is cemented and ready to drill in.

Kingsville Field—Kleberg

Houston Oil Co.-A. E. Erwin's No. 1 Kivlin, Lot 7, Section 50, located 660 feet to SE cor., is coring sand at 2,075 feet. Humble Oil & Refining Co.'s No. 4 R. J. Kleberg, Block 6, Section 40, is location 660 feet to east line and 810 feet to south line; No. 1 Gulf-Dennett, Block 18, Section 38, located 630 feet to west line and 150 feet to north line, has set 10-inch casing at 500 feet; No. 1 Kleberg trustee, Block 8, Section 40, located 150 feet to NE cor., is drilling at 3,720 feet; No. A-3 Dennett, NW cor. Block 2, Section 39, is shut down at 2,740 feet; No. 1 Kivlin, NW cor. Block 5, Section 39, is drilling at 2,920 feet.

Refugio Gas Field—Refugio

Houston Oil Co.'s No. A-2 Rooke, Mullen Survey, located 677 feet to north line and 700 feet to east line, has set surface casing; Houston Oil Co.-Pratt-Hewitt's No. 5 Rooke is preparing to rig up over old hole and either complete at 2,400 feet or drill deeper. Houston Gulf Gas Co.'s No. 7 Lambert is drilling; No. 2 Lambert is drilling at 1,300 feet; Moody's No. 1 Wilson Heard tested salt water through drill stem at 1,920 feet and is drilling deeper. William F. Morgan's No. 2 Rose Rogers, half a mile from production and northeast of No. 1, is bailing at 2,440 feet; No. 1 S. J. Ryals, in center of field, is drilling at 2,100 feet.

Somerset Field—Bexar and Atascosa

Grayburg Oil Co.'s No. 16 Shaw, Survey 278, is location 225 feet to west line and 1,420 feet to south line; No. 29 Caruthers, Survey 377, located 1,000 feet east of No. 26, is drilling; No. 36 Ernest Survey 366, is location 230 feet to east line and 716 feet to south line; Associated Petroleum Co.'s No. 16 Caruthers, William Caruthers Survey, is location 604 feet south of No. 2; No. 2 Ernest, Survey 266, is location 550 feet west of No. 1.

Luling Field—Caldwell

Magnolia Petroleum Co.'s No. 10 Tiller, J. Henry Survey, located 400 feet southwest of No. 1, has derrick completed; No. 15 Stair, J. Henry Survey, 300 feet northwest of No. 12, has spudded in and drilling, after setting surface casing at 70 feet; No. 8 W. R. Shanklin, H. Cottle Survey, 300 feet southeast of No. 7, at 2,214 feet has been completed making 35 bbls. on the pump. North & South's No. 1 Kelly is at 6,930 feet with drill stem stuck, having been in schist from 4,700 feet; No. 1 Tiller is drilling at 6,390 feet in schist, struck at 4,700 feet.

Adams Gas Field—Medina

Witherspoon Oil Co.'s No. 2 Nixon, Survey 119, located 2,120 feet south of No. 1, and which has been running wild, has been nearly killed with baryte and cement, and offsets are to be started soon. Western Gas & Fuel and Witherspoon Oil Co.'s No. 3 Adams, Block 7, of the Adams ranch, due west of Lange's No. 1 Adams and 400 feet to east line of lease, is rigging up. Witherspoon Oil Co.'s No. 1 Bader, Survey 135, located 150 feet to north line and 400 feet to west line, drilling at 780 feet. Western Gas & Fuel Co. and C. E. Lange's No. 5 Adams, is location in Durst Survey, 1,550 feet northwest of No. 5.

W. L. Pearson's No. 2 Meaney, located 300 feet from south line of lease, has derrick up and is waiting on rig; No. 2 Weil, west of Corpus Christi, is swabbing at 2,360 feet.

CANADIAN FIELDS

(Continued from Page 48)

the furthest west structurally of any well in the field, and on a minor structural fold; the Dakota sand at this point seems to be more deeply buried. Drilling is being continued for commercial production.

Royalite Production

For the month of May, Royalite Oil Co.'s No. 4, LSD 12, Section 7-20-2w5, had an aggregate production of 18,586.3 bbls., averaging 599½ bbls. a day; a decline of about 12 bbls. from the April average. For May the other Royalite wells produced through the gasoline absorption plant an aggregate of 757.3 bbls.

Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, which has been waiting for the cement at the bottom of the 4½-inch casing to set, has resumed drilling at 3,680 feet. The drill is in the top of the Madison limestone. Dalhousie No. 5, LSD 16, Section 30-19-2w5, is reported drilling around 4,200 feet. Dalhousie No. 6, LSD 10, Section 13-20-3w5, got a fair show of crude oil in the Dakota sand at 3,490 feet. Drilling proceeded through the oil sand to 3,530 feet, the oil rising 250 feet in the hole. A bailing test indicated a possible production of from 25 to 30 bbls. a day. The 10½-inch casing was set on top of the oil sand and the well is being drilled down to the deep lime, at last reports drilling at 3,575 feet.

McLeod Oil Co.'s No. 2, LSD 16, Section 1-20-3w5, is making 2,000,000 feet of wet gas with an incidental production on the separator of 50 bbls. a day of crude naphtha. McLeod No. 3, same LSD, is at 2,160 feet and drilling.

Royalite Oil Co.'s No. 7, LSD 3, Section 13-20-3w5, rotary test, is at 3,277 feet and drilling.

Spooner Oils' No. 1, LSD 12, Section 13-20-3w5, is drilling at 3,600 feet, being about 150 feet in the Kootenays. Vulcan Oils' No. 2, LSD 11, Section 13-20-3w5, is at 1,000 feet and ready to set the 15½-inch casing. Okalta Oils' No. 1, LSD 1, Section 1-20-3w5, is around 2,400 feet and sidetracking about 600 feet of old casing. The drill is about 200 feet from the bottom of the original hole. Regent Oil Co., LSD 16, Section 1-20-3w5, is at 2,147 feet and drilling in a very hard formation.

New McDougall-Segur's No. 2, LSD 14, Section 12-20-3w5, is at 300 feet and drilling for the 15½-inch casing. The 20-inch was cemented at 120 feet to shut off surface water. Owing to the bad condition of the roads, New McDougall-Segur No. 1, same LSD, has accumulated more than 2,500 bbls. of light crude in storage, using the Illinois-Alberta tanks when its own tankage was exhausted.

Advance Oil Co. is reported to be locating a test on its acreage close to the Home Oil Co.'s No. 1 producer.

President Stillman's Visit

C. O. Stillman, president of Imperial Oil, Ltd., who recently visited the Turner Valley Field, has announced that No. 1 well of the Foothills Oil & Gas Co. will be drilled in Section 26-30-3w5. The location is east of Stockmen Oils' No. 1 and south of Seneca Oils' No. 1, in the north end of the Turner Valley Field, where the company holds some 2,000 acres. Imperial-Millarville's No. 1 is in the southwest quarter of the same section. It is stated that a second well will likely be drilled by the Foothills company, but the location has not yet been settled. Mr. Stillman states that several offset wells will be drilled by the Royalite Oil Co. in the Turner Valley on locations not yet determined; but that no further drilling will be done by Imperial Oil, Ltd., or its subsidiaries in the plains area of Alberta. Foothills No. 1 is located on Hudson Bay Co. land.

It is reported that the Keystone Carbon Co. of Monroe, La., is planning to bring in a carbon black plant from Wyoming to handle the waste gas of the Turner Valley Field.

In the Highwood district of the southern foothills, Imperial Oil, Ltd.'s No. 1 Highwood, LSD 3, Section 36-18-3w5, is setting 10½-inch casing at 2,349 feet. In the border area, Imperial-Erickson's No. 1 Coulee, LSD 13, Section 8-1-12w4, is being capped and shut in and will be retained as a gasser, though there is no immediate market for the estimated production of 7,500,000 feet a day.

Justice Walsh, of Calgary, has given judgment in favor of the Signal Hill Oil Co. in its suit against the London Oil Securities, Ltd., for return of 75,000 shares of treasury stock. The company also secured judgment against T. Henderson and J. O. Jones for $6,750.75, being the value of 9,001 shares of stock, with the right to the defendants to return the shares for cancellation. Signal Hill Oil Co. has a test in LSD 9, Section 34-24-5w5, in the Moose Mountain district which is shut down waiting for a cable at 1,158 feet.

In the Morley Reserve area, Wabash Oils has cemented casing at 179 feet. Gold Coin Oils is drilling at 2,600 feet in a very hard formation, after striking a good show of wet gas.

In the DeWinton area, Anglesey-Lakeview's No. 1, on the Rowland Ness farm, LSD 1, Section 22-21-1w5, has derrick up.

In the Aldersyde district, Ranchmen's Oil & Gas Co., LSD 16, Section 13-20-29w4, is at 800 feet and drilling.

Devenish Well

In the border fields, Devenish Petroleums, LSD 5, Section 27-5-14w4, is reported producing around 250 bbls. a day on a swabbing test which is still in progress. When the swabbing test is finished and additional tankage secured, an air lift pump will be installed. With the continuance of the swabbing test, the oil has come more freely, and it looks as though the well may make as high as 400 to 500 bbls. on the pump. The early samples tested at the International Refining Co. plant at Sunburst, Mont., showed 18.2 gravity, with 12 per cent of gasoline and 11 per cent of kerosene. It is claimed that later samples are considerably lighter, but at the best it will probably be under 25 gravity, a trifle lighter than the better grades of heavy crude from the Irma-Wainwright Field. Though not far from the Foremost gas field, the Devenish Petroleums well is located at a point 700 feet higher structurally than the Foremost gas field. The log indicates that the Kootenay formation is practically absent at this point, there apparently being less than 300 feet of the Blairmore (Dakota) and Kootenay combined below the Benton shale. The production comes from a brown sand in the Ellis, about 10 feet thick; but not from the Ellis-Madison lime contact, which is thought to be 100 feet below the bottom of the well which got the producing sand between 3,080 and 3,090 feet. Both gas and oil production seem to be gradually increasing.

Filing on adjacent and even far distant territory is still in progress at the Lethbridge land office. The Devenish-United Oils interests are reported to have filed on extensive acreage north and west of the well, the area blanketed now extending a considerable distance north and west of the village of Skiff. The little prairie hamlet of Skiff is in the throes of a fair-sized boom as a result of the oil strike. Real estate is in demand, and an hotel and several new stores are projected. At last reports the well and the district generally were isolated as a result of heavy rains, with the roads in impassable condition.

It is reported that the crew at Devenish Petroleums No. 1 is getting ready to skid the rig to a new location for No. 2, likely some distance north of No. 1. Crumley & McKnight, drilling contractors, put down No. 1 test. It is reported that another company is moving in a rig for a test 8 miles south of Conrad and about 12 miles west of Skiff. Chicago capitalists, represented by M. E. Jackson of Lethbridge, are considering a test an acreage filed some time ago by T. Corwin and associates of Vancouver. The Corwin interests are reported to have 9,000 acres tied up in the Chin district.

In the drilling of Devenish No. 1 the "red beds" usual in the Montana Field are reported to have been entirely absent, the first horizon at the lower depths readily recognizable being the Sunburst. The Sunburst sand was dry. O. G. Devenish, head of Devenish Petroleums, states that several new wells will be put down in the Skiff Field. Rotary rigs will be used throughout. No. 1 test is reported to have cost $100,000, drilling to 3,090 feet depth; but it is expected that in later wells with the rotary outfit the same producing horizon can be reached at a cost of $25,000.

Milk River Test

Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary will drill a test on its Milk River acreage approximately 20 miles west of the Devenish No. 1. P. D. Mellen, chief engineer, and James Morrison, field superintendent, have made a tentative location subject to the approval of President C. J. Yorath. Work in derrick will likely be started before the end of June. The test is primarily for gas.

In the Pincher Creek district, southwestern Alberta, Mount Royal Oil &

(Continued on Page 134)

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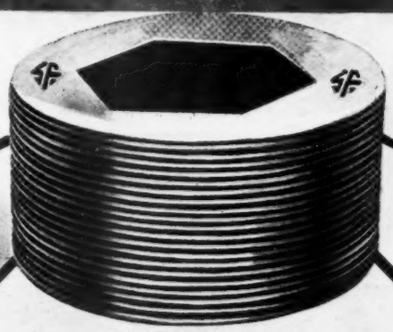

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(Signed) W. E. Perdew.

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The plugs we have used have now been in service in excess of sixty days with performance justifying our giving you our order number 4014."
Root Refineries, Inc.,
El Dorado, Ark.
(Signed) T. E. Baird.

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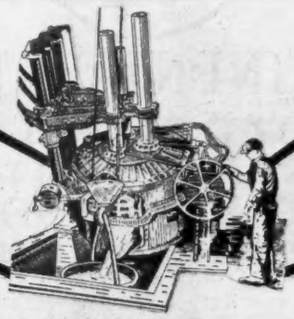

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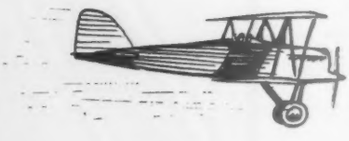

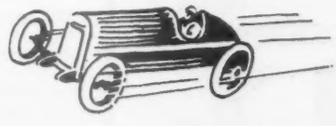

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Field Benefits in Use of Standards

Co-operation of Producing Companies Essential to Reap Fullest Advantage From Standardization

By L. G. E. Bignell*
Associate Member A.S.M.E.; Associate Member A.I.M.E.

All movements that have brought into being equipment that is now recognized as "standard" of its type have attached to their inception some story dealing with the first practical application of the idea.

When Eli Whitney invented the cotton gin, he had first to induce others to accept it according to his standards, and later those first users took unto themselves a certain reflected credit for the idea and told how they had made the cotton gin a success. The same is true of the air brake, the electric lamp, the automobile, the various machines used in treating metalliferous ores, and also in the oil industry to the application of the wire line and steel derricks and other equipment to drilling operations.

These accomplishments, as time passes, become enshrouded with various stories of their inception, and so with the growth of the standardization program of the American Petroleum Institute, as it applies to equipment used by the oil industry, we have various stories of the origin of the idea. One of them is here cited, first, to illustrate the point just made, and, second, because it will help to emphasize again the practical value of using "standard parts."

Origin of Movement

Several years ago a wildcat well was being drilled in West Central Texas, as the story is told, and a wrist pin was broken, which, of course, necessitated a shutdown of work until a new one could be provided. The driller's first thought was to borrow one from another crew drilling on a wildcat located some 10 or 15 miles away, but he found that they did not have a spare wrist pin, and it became necessary for him to go to the nearest town, about 25 miles distance from his well. There was no supply store in this town, so he had to wire the nearest branch of the manufacturer, which happened to be at Fort Worth, ordering a wrist pin shipped by express.

A pin was received in about 36 hours, and the driller returned with it to the well, only to find that it would not fit in the crank hole.

There was nothing else for him to do but return to the railroad town and telephone Fort Worth, explaining the situation, and it then developed that the rig irons were of an old pattern and the size of the wrist pins had been changed three times since the irons were first designed.

As one size pin had been tried and the driller did not have accurate measurements of the hole in the crank, it was necessary for the Fort Worth supply house to order one of each of the remaining size pins from the factory located in the East.

Here again trouble and delay was encountered, for the factory only had one size of pin in stock and had to make up the other one. It took three days to get the pins off to Fort Worth and about seven days had elapsed before they reached the driller at his station, and he then had to return to the well and try them out.

One of these pins fit the crank and the work was resumed, but not until there had been a shutdown of about 10 days, and all of these facts were developed when the purchasing agent for the producing company made investigation to ascertain the reason for the high price of wrist pins for that wildcat well.

A wrist pin that should have cost about $15 had caused a shutdown expense of several hundred dollars, and it made the purchaser think.

He asked himself the natural question: "Why is it not practical to make wrist pins of standard size for all makes of rig irons?"

This was discussed with other buyers, and it developed that they had had similar experiences, not only with rig iron parts, but with other equipment, and, as the story has it, this led to a movement to try to secure some sort of standard for oil field equipment.

The movement grew, and about seven years ago the American Petroleum Institute became interested in it, first in a general and later in a very detailed way, and now there is a very complete set of standards for most of the equipment used in drilling for and producing oil.

In working out these specifications, committees have been formed composed of experienced men from the organizations of both the manufacturers and users. The first work was done largely by the users' representatives, who took existing specifications and compared them and made tabulations showing what changes would be necessary to bring all equipment to the same specifications. The manufacturers in turn studied these suggested standards and considered them from the standpoint of shop practice and made counterproposals covering their ideas. The joint committees of users and manufacturers then again revised the specifications, with the result that standards were evolved that were suitable both from manufacturing and field requirements, and these are the standards now under consideration.

Now that they have been prepared and the material is being manufactured according to them, it becomes necessary to secure their adoption to actual field use.

Should Be No Delay

When it is remembered that this movement has not been in any sense a local one, and operators and manufacturers from all sections of the country have engaged in working out its details, it seems very logical to assume that the standards are very good averages of all field requirements.

From a practical standpoint, drilling operations in all fields are the same, for all petroleum is found beneath sedimentary deposits, and whether the hole is drilled with rotary or cable tools, or a combination of both, the same general conditions of operation will apply.

It therefore follows that there should be no reason for delay in accepting American Petroleum Institute standard equipment and putting it into use, for primarily there is no radical change in design from what has been recognized as good practice for many years, the main changes involving details of fit, that is, making the various parts so that they can be readily used with other parts, even though the set may be made up of several different makes of material.

A close study of American Petroleum Institute specifications will show that there is equipment suited for every purpose, but one piece or class of equipment should not be considered entirely by itself, but should be considered in connection with other American Petroleum Institute standard apparatus.

To illustrate, it has been found that there is a very wide difference of opinion regarding the proper height of derricks suitable for the many different fields, with a result that some 400 different size derricks have been manufactured, whereas the American Petroleum Institute derrick specifications limit the number of sizes to 11, and it is very easy to estimate the saving in cost that will be effected by this reduction in "rig patterns," both to the manufacturers and production companies.

But, to consider the 11 standard size derricks as proposed by the American Petroleum Institute specifications alone might lead to some confusion, for it might be found hard to handle certain strings of casing or tools in some of these derricks, but if the casing and tools are considered from American Petroleum Institute specification recommendations also it will be found that everything will fit together very nicely.

Benefits to Accrue

There seem to be many benefits that will accrue to the industry by the use of American Petroleum Institute specification material, and a few of them are given as follows. In the past the operators have set up among themselves certain apparatus as standard in its class, and it has been found that when material has been offered for resale that kind recognized as "standard" has commanded a higher price than other equipment not so considered.

There are certain makes of steam, oil and gas engines that are recognized as best suited to oil country work because of the fact that their development has been brought about by very careful study of the oil field conditions to which they are to be subjected, and those engines will find a quicker market when offered for resale than others without this reputation behind them.

The same is true of casing, tubing, rig irons, steel equipment and in fact all apparatus that is used in and around oil wells, and if it is true of what was only an accepted standard developed by a manufacturer, is it not logical to assume that A. P. I. standard equipment will have a greater resale value, because it retains all of the good features of the original design plus the added advantage of interchangeability of parts?

To deal with a specific case as illustrating this condition, several years ago after the now famous "Ranger" boom, several of the larger companies had accumulated excess stocks of rig irons of several makes, and found it best to reduce inventories by offering part of this stock for resale.

Ranger an Illustration

First the companies offered certain makes of iron that were not considered standard, and to move them made very attractive prices, and when that had brought about a partial reduction in stock the "standard" make of rig irons were offered, but at a price of from $150 to $250 per set higher than the price asked for the other irons.

It then developed that the "standard" rig irons sold much more readily, at the higher prices because experience had proved that it was safe to purchase those rig irons and move them away from the rigs to other fields for further use, because parts were interchangeable and spares could be easily secured from the manufacturer's other local warehouses.

Much more recently it has been found that on wells abandoned in the Panhandle district rigs equipped with irons built in accordance with standard specifications have brought from $300 to $600 higher price per outfit than other rigs without standard specification irons in the derricks.

Another advantage to accrue from the use of A. P. I. Standardization Equipment will be the lower charge-off value to be made against each well, for with this standard equipment it will be much easier to combine it with other material of like specifications and ultimately entirely use it up.

At this time of low market value of crude oil this is quite essential for anything that will tend to reduce the cost of drilling and operating wells is very acceptable to the industry. The ability

*Before American Petroleum Institute Standardization Conference, Colorado Springs, Colo., June 17.

GALLON COSTS OF OPERATION FROM MARKETING STANDPOINT

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 20.—Actual operating figures relating to the gasoline retail business in the East show that the average cost per gallon of operating a representative station amounts to five cents. This figure includes salaries, light, heat, water, 'phone service, repairs, taxes and miscellaneous expenses, but not interest on the investment or depreciation.

In view of this, leading refiners operating service stations and independent service station operators maintain that the differential between the tankwagon price and selling price should amount to at least 6 cents a gallon, in order for them to make a reasonable profit.

At present in the East there is a nominal tank wagon market, which however, it is generally admitted, does not reflect the true conditions of the market. If present tank wagon prices were adhered to broadly those operating service stations would be losing 2 to 4 cents on every gallon of gasoline sold.

The margin usually received by service station operators is now running anywhere from 5 to 8 cents a gallon. Of course there is a difference between stations handling nothing except gasoline and oil—the ideal, representative service station—and the service station handling automobile accessories or other supplies. This article deals only with the former.

The practice of giving concessions below the tank wagon market has been prevalent for several years. This policy is generally condemned in all branches of the trade, yet it goes on. The reason is that there is a bitter fight for gallonage on among the refining companies, who are struggling to keep their present connections as well as building up additional service station facilities of their own.

This tendency to build new service stations is said to be partly the result of the policy of many small towns and cities in barring the old curb pump due to traffic conditions. Many of the leading refiners are said to have depended largely on these curb pump operators but now, with these coming out, are fighting to make regular service station connections.

Unhealthy Conditions

The plethora of gasoline service stations in the East has been widely commented upon as an unhealthy symptom, but it is scarcely realized except by those in the business directly, how bad it actually is from a financial viewpoint.

Many of the large refining companies, for instance, are putting in chains of service stations to be operated by themselves. The investment in each individual station runs from $20,000 to $100,000, depending upon location and size. These are built often opposite an existing station, or several stations, apparently without any idea that they will

(Continued on Page 90)

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to transfer material from one field to another as drilling activity requires with the assurance that it can be used with the minimum of replacement cost is another advantage to accrue by the use of standardized parts.

This means an advantage because a maximum of credit can be given to the well from which the equipment is taken and thereby hold the cost of operations there at a minimum, and will not burden the new project with high charges for it is recognized that this material may be moved from the second location to future work, and thus the first cost will be distributed over a large number of wells.

To Standardize Operations

The standardization of field operations will follow the use of standard equipment, for it must follow that if the driller becomes accustomed to a certain class of apparatus and uses it in a certain way in one field they will continue to use it in that manner in other fields later.

It further follows that the standard of drilling operations will be raised for the longer the crews continue to use one type of apparatus the more familiar they will become with it, and this familiarity will tend to make them more skillful in their work, and permit better and cheaper wells to be drilled. Where crews move from field to field following periods of activity and are required to become familiar with different classes of equipment in the various fields as well as learn the different formations to be drilled trouble follows, which can be greatly minimized if the necessity of becoming acquainted with new equipment is eliminated by the use of standard parts in all fields.

The capital invested in equipment becomes generally used, for inventories will quickly disclose where excess stocks are available for transfer to points where needed and this can be done with the assurance that parts will fit, and the transfer costs not thrown away by finding out too late that the transferred material is not suited to the conditions in the field to which it has been moved, which has often happened in the past where miscellaneous specifications of parts has been followed.

It is equally true that the inventory will be reduced because a fewer number of sizes of parts will be carried in stock when standardized equipment is used. Frequently it has been found that an excess stock of casing and pipe in one field could not be transferred to another field where it was needed as it would not "make up" with the pipe already in use in the field where needed most.

There seem to be little doubt but that deeper drilling will be required to secure oil in the future than has been the case in the past, and here again a saving can be effected by the use of A. P. I. standard equipment, for this material may be selected with the intention of drilling below 5,000 feet as it may be found necessary, but the equipment will still be quite suitable for operations now being carried on in wells around 4,000 feet in depth.

From the foregoing, it therefore seems, that there are many benefits to accrue to the industry by the use of A. P. I. standardized equipment, and the problem now before the industry is to find ways and means of actually putting this material into practical use in all fields. This seems to rest largely with the executives of the producing companies to outline their wishes to their assistants, for the manufacturers are ready to make the equipment upon a production basis just as soon as the demand for it is apparent.

Advantages Summarized

To summarize these advantages that will follow such a movement these results seem assured:

First. Lower drilling costs.

Second. Higher salvage values on equipment.

Third. Lowering of production costs.

It may be argued that with the present low market value of petroleum it is not the proper time to inaugurate this movement, but against that can be set forth the fact that the lower the market value of oil the greater will be the percentage of saving, and it is quite evident that reduction in drilling and production costs is very necessary at this time in order to offset the low market value of the oils being produced.

By co-operation between manufacturer and consumer and the adoption of definite rules of procedure on the part of the producing companies it seems that some very marked progress may be expected in the way of putting A. P. I. standardized specification equipment into actual field use within a very short time to the general benefit of all concerned.

COSTS OF OPERATION FROM MARKETING VIEW

(Continued from Page 89)

begin to pay immediately. Losses entailed in operating these stations often runs from 2 to 4 cents a gallon.

Why companies will build stations in view of this is explained by the struggle for outlets for a top-heavy gasoline supply, and in addition many believe that if they hold on long enough, there will ultimately be a reckoning on the part of some of their competitors, and they will get the business. This is perhaps a harsh way of putting it, yet the facts are generally known in the trade, and are made no worse by comment. That is what might be called "unhealthy competition," and perhaps it can be indirectly traced to overproduction in other branches of the petroleum industry.

Meanwhile many in the service station business, and perhaps chiefly the big refining companies, are taking heavy losses and it is not clear just how long they will continue to have to take them.

Gasoline Price Situation

The oil trade, especially the production branch, which represents an all-important wing, does not have a clear conception of the true price situation as related to gasoline. There is a feeling here and there that "the other fellow" is getting an excessive profit. But actual figures fail to reveal any unusual margin under present price conditions. In fact, losses probably predominate.

The writer has obtained actual operating figures relating to the business of a representative service station operator, who has about 10 stations handling 75,000 gallons of gasoline a month. This operator has always operated on a conservative basis; he entered the business about seven years ago, when costs were lower. It is likely, therefore, that these figures represent the better side of the picture.

The figures are for a recent month, and reflect present price conditions. The average selling price, and various costs, for this chain of service stations, was as follows (cents per gallon):

Handling costs, including salaries, light, heat, water, phone service, repairs, taxes and miscellaneous, but not depreciation or interest on investment	5.00
Transportation from refinery	.97
Cost at refinery	8.75
Total costs	14.72
Average price received	16.63
Net profit	1.91

In this instance, the independent service station operator mentioned purchased his material from the Atlantic Seaboard refinery, paying the freight, as noted, of 97-100 of a cent per gallon to his station.

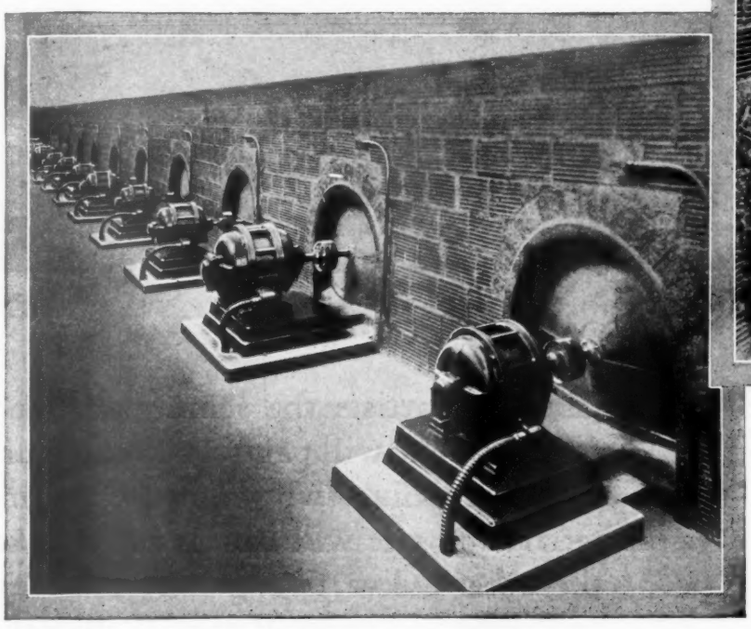
The same operator could purchase gasoline from a Tulsa refiner under present price conditions, say for 6½ cents, but would have to pay 4.25 cents a gallon freight, which makes his balance as follows: (Cents per gallon):

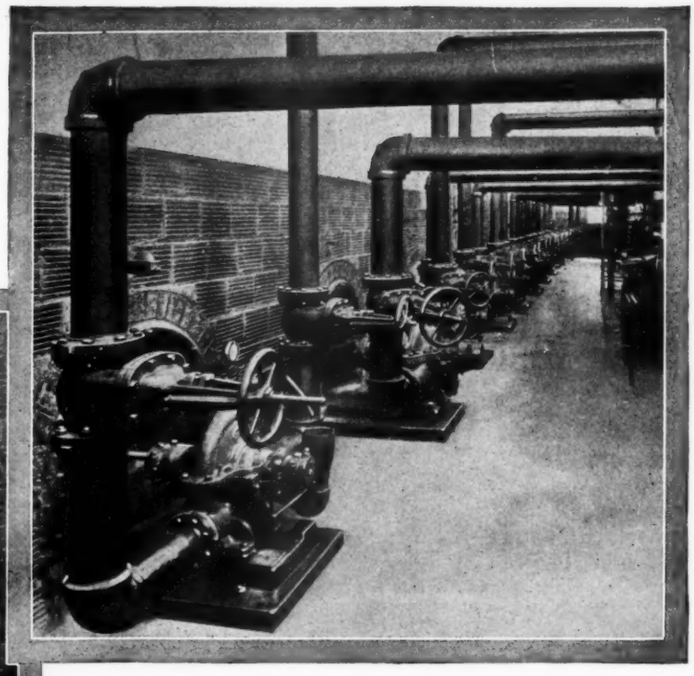
Handling costs	5.00
Transport from refinery	4.25
Cost at refinery	6.50
Total costs	15.75
Average price received	16.63
Net profit	.88

It is therefore more advantageous for the service station operator to purchase his gasoline on the Atlantic Seaboard.

The only other way of obtaining gaso-

WORTHINGTON





CENTRIFUGAL PUMPS and driving motors in main pump house of the Eldorado, Kansas, refinery of the Skelly Oil Company. Motors are direct-connected to pumps through hollow-tile fire wall, the shafts being packed where they pass through fire wall.

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This installation is typical of Worthington's ability to meet every advance in the pumping requirements of the petroleum industry with a type of pump exactly suited to the particular operating conditions and type of power available.

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Babe Ruth drives a baseball harder and further than all the others hitting the same ball in the same game.

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The "American" Totally Enclosed Oil Well Pumping Jack has been designed in answer to the demand for the efficient pumping of individual wells.

American Jacks are made in three sizes—twelve inch to fifteen inch stroke, fifteen inch to eighteen inch stroke, and eighteen inch to twenty-two inch stroke. All gears are totally enclosed and run in a bath of oil which floods the bearings, insuring smooth operation and long life. The head proper may be disengaged from the cable and swung back from the walking beam, permitting the rods to be pulled without moving the jack itself. There are no screw mechanisms or adjustments necessary. No gears are exposed.

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San Francisco, Calif. 635 Mission Street

line, would be to purchase cargo lots, to be delivered at Atlantic Seaboard terminal. Costs on this basis are estimated as follows (cents per gallon):

Handling costs	5.00
Transport from terminal	.97
Water transport from Gulf Coast	1.20
Rail, Tulsa to Gulf	2.35
Cost at Tulsa refinery	6.50
Total costs	16.02
Average price received	16.63
Net profit	.61

On the above basis of consumption, large lots would have to be handled, inasmuch as a tanker would probably carry not less than 1,000,000 gallons of gasoline per trip.

Source of Profit

It is interesting to note, however, that under present price conditions a service station operator actually can make a profit. The question is, whether that profit is not made at the expense of the refiner, selling on the basis of 6½ cents a gallon, f. o. b. Tulsa, or 8¾ cents a gallon, f. o. b. Bayonne or Philadelphia. It is the impression here that the refiner must be taking that loss.

Bulk Station Situation

A new branch of gasoline retailing has grown up which is of importance with relation to the place occupied by the typical service station. This new branch involves the sale of gasoline direct from the bulk distributing stations to users of gasoline in large quantities. It is known as the "commercial" trade. Users in this class include the public service corporation operating motor buses; trucking companies, and, in fact all large corporations having hauling to do.

One of the largest refiners and marketers of gasoline in the East states that this type of business is growing by leaps and bounds in this section of the country, and is constituting a steadily growing percentage of the total gasoline business. The large refiners handle this in tank car lots from their refineries, or else in tank wagon lots from bulk distributing stations located at railroad sidings.

One representative small company having a bulk station at a railroad siding handling something over 100,000 gallons monthly and also a small chain of service stations is barely making a profit in operation of the latter but is making a substantial margin on its bulk station. This is explained in part by the smaller cost of operating the bulk station. The actual figures follow (cents per gallon):

Handling costs	2.51
Transport from refinery	.90
Cost at refinery	9.00
Total costs	12.41
Average price received	15.75
Net profit	3.34

Bulk business handled by this company, exclusive of the gasoline supplied to its own service stations, constitutes about 35 per cent of the total business. This type of business is as shown above on the present basis of prices, profitable.

Bulk trade, however, gradually encroaching on the service station business, in as much as many trucks and buses formerly depending on stations along their route as now being supplied with motor fuel from bulk tanks at private garages, at their own plants.

Of course the extent of this encroachment is limited largely to the types of vehicles mentioned. The big part of the gasoline business is still and probably always will be, largely in supplying private motor cars—the so-called "pleasure" type of car.

The whole service station problem resolves itself down to two goals: (1) To serve the consumer with maximum efficiency; (2) To make a profit. Neither of these goals, generally speaking, has yet been attained in the opinion of those who have studied the problem thoroughly.

MEXICAN FIELDS

(Continued from Page 44)

companies finish certain wells no new locations are being rigged. On the other hand, indications are not lacking to the effect that smaller companies, and independent operators, that did so subscribe are preparing to drill here and there in the near future. This will apply to the south fields as well as the northern fields, the latter predominating. So it is more a case of "wait and see" than anything else. That wildcatting of the simon pure variety is still dormant is also noticeable. The importation of foreign crudes to mix with the heavier oils of Mexico in local refineries (in this instance Huasteca Petroleum Co., subsidiary of Standard of Indiana, is the only company contemplated), during the month of May can be placed at 713,261 bbls., the greatest volume of foreign crude imported in any one month in more than a decade. It is an increase over such importations in the month of April (the previous high month) of say 154,223 bbls. It must be recalled that from now on, as long as this matter of crude importations in such volume as are in vogue at present continue, that vessel movements from Mexican ports of primary clearance must take these importations into consideration. This volume of importations are necessarily joined to domestic production in considering both exportations from Mexico and domestic consumption.

Week's Work

There were some 14 wells completed in Mexican fields during the past week, of which only 3 can be placed in the production column (all in the north fields) and say 11 were failures. The new production resulting was 1,675 bbls. The best well of the week was Mexican Petroleum Co.'s No. 6 Shepard, in the Salinas sector, which swabs 1,500 bbls., being finished at 2,206 feet. The same company, in its Ebano sector, finished No. 70 Chijol at 1,945 feet, rated 100 bbls.; and its No. V-57 Caracol is rated say 75 bbls. at 2,392 feet.

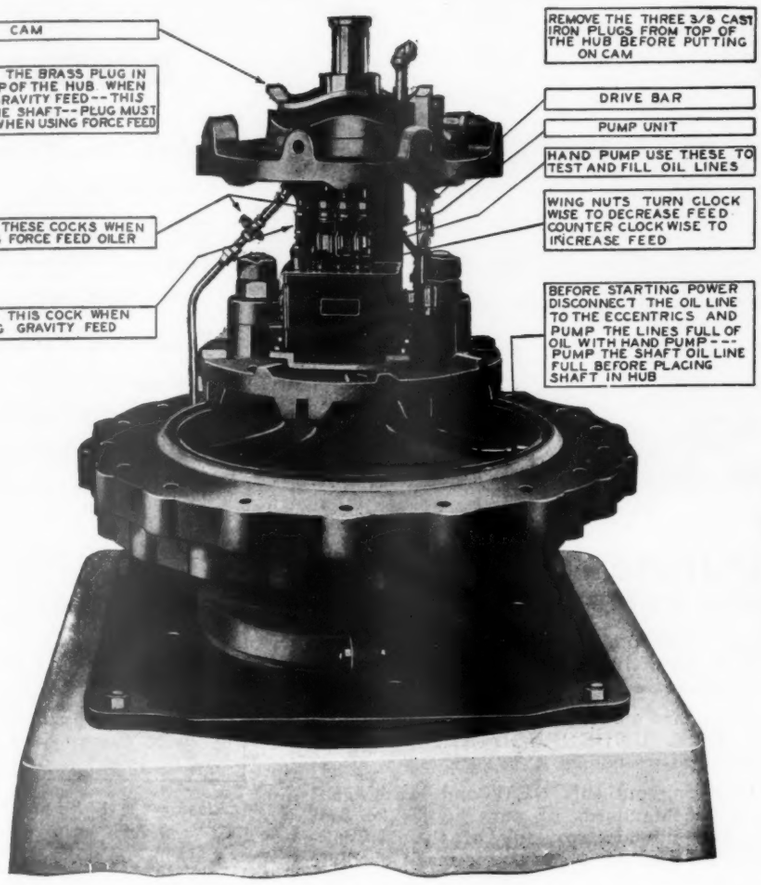
The failures follow: International Petroleum Co.'s No. 311, Lot 8 Cacalilao, is a dry hole at 2,500 feet; Neinau & Co.'s No. 9 W. Maguabes, Panuco, is a fluid failure at 2,460 feet; Transcontinental Petroleum Co.'s Nos. 284 and 287, Lot 2, Cacalilao, drilled into salt water at 1,965 and 2,205 feet, respectively. American International Fuel Co.'s No. 67 Los Esteros is a dry hole at 2,150 feet. Kern Mex Oil Fields, Ltd.'s No. 7 Salinas is dry at 2,522 feet. Mexican Petroleum Co.'s No. 132 East Dicha, drilled into salt water at 2,120 feet; its No. 72 Chijol is dry at 2,200 feet; its No. 36 Pedro is dry at a similar depth; its No. 2 Budde (Salinas) is dry at 2,700 feet. National Lines' No. 61 Conteca is a dry hole at 2,577 feet.

Field Operations

In the Panuco-Cacalilao sector of the northern fields, drilling operations as the week ended are best reflected as follows: La Corona Petroleum Co.'s No. 197 Cacalilao is running 10-inch in shale at 600 feet; its No. 144 Isleta, Panuco, is in shale at 1,470 feet, carrying 8-inch. Drillers Percentage Association's No. 2 E. Maguabes is in gray lime at 1,930 feet. Cia. Pet. Francia Mexico's No. 21, Lot 4 Tanchicuin, is in gray lime, showing oil at 2,068 feet; its No. 28, Lot 10 Buena Vista, is in gray lime at 2,070 feet. International Petroleum Co.'s No. 310, Lot 8 Cacalilao, is in white lime at 2,190 feet; No. 314 is in gray lime at 1,860 feet. Mexican Sinclair Petroleum Corp.'s No. 154, Lot 1 Cacalilao, cemented 8-inch in gray lime at 1,186 feet; No. 124-A, Lot 2, is in gray lime at 1,705 feet; No. 214, Lot 2, is in gray lime at 1,475 feet; No. 217 is in blue shale at 820 feet; No. 218 is in gray lime, with a showing of oil, at 1,510 feet; and derricks are up over two more locations in Lot 3. Cia. Pet. Territorial No. 41 Salvasuchi is in gray lime at 1,770 feet. Transcontinental Petroleum Co.'s operations in Lot 2 Cacalilao: No. 213 cemented 8-inch in gray lime at 1,390 feet¼ No. 71 Paciencia cemented 8-inch in gray lime at 1,285 feet.

Ebano Sector

Mexican Petroleum Co., in the Ebano sector, offers the following: No. 37 Ebano is in gray lime at 1,665 feet; No. 70 Midway is straightening crooked hole at 1,626 feet, gray lime; No. 139 La Dicha is in gray lime at 1,335 feet; No. 141, same, cemented 10-inch in gray lime at 1,340 feet; No. 151, same, is in hard gray lime


CAM
REMOVE THE BRASS PLUG IN THE TOP OF THE HUB WHEN USING GRAVITY FEED -- THIS OILS THE SHAFT -- PLUG MUST BE IN WHEN USING FORCE FEED
CLOSE THESE COCKS WHEN USING FORCE FEED OILER
CLOSE THIS COCK WHEN USING GRAVITY FEED
REMOVE THE THREE 3/8 CAST IRON PLUGS FROM TOP OF THE HUB BEFORE PUTTING ON CAM
DRIVE BAR
PUMP UNIT
HAND PUMP USE THESE TO TEST AND FILL OIL LINES
WING NUTS TURN CLOCK WISE TO DECREASE FEED COUNTER CLOCKWISE TO INCREASE FEED
BEFORE STARTING POWER DISCONNECT THE OIL LINE TO THE ECCENTRICS AND PUMP THE LINES FULL OF OIL WITH HAND PUMP -- PUMP THE SHAFT OIL LINE FULL BEFORE PLACING SHAFT IN HUB

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The band wheel is constructed with two sets of angle drive spokes and two sets of round spokes to true up the wheel. It cannot break or distort with any load the belt can pull.

All shaft bearings are bronze bushed and are easily removed and new bushings put in place.

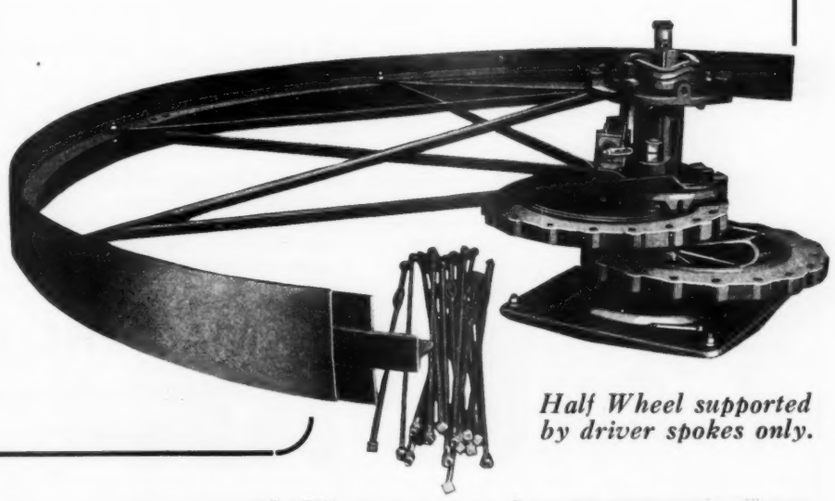
The thrust bearings are heavy bronze plates, and run in a bath of oil.

The powers are fitted with a Force Feed oiling system that puts the oil to each eccentric and to the shaft under pressure so that the oiling is positive. Only clean new oil is used. No dirty oil reaches the bearings.

These powers are built in two sizes—No. 999—Heavy Duty Power, 18″ stroke, Double eccentric—16 ft., 18 ft., or 20 ft. band wheel with 15″ face.

No. 2424 Extra Heavy Duty Power with 24″ stroke, double eccentric, 24 ft. band wheel with 18″ face.

MARION MACHINE FOUNDRY & SUPPLY CO.
Marion, Ind.



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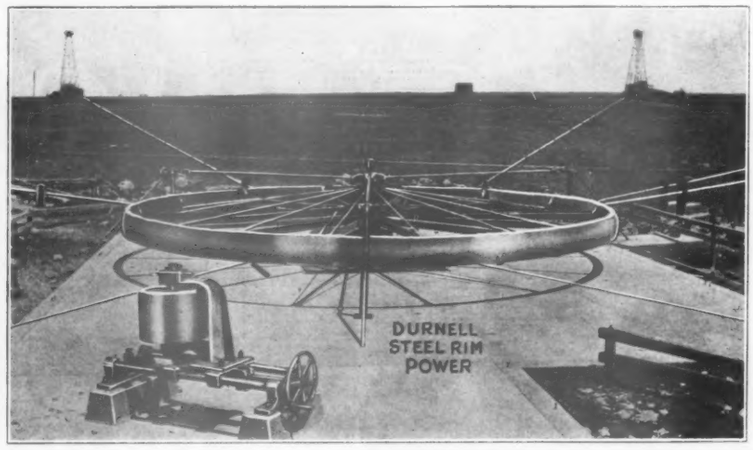

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Weight and lightness used where needed.

Base and Bearings set. Placing the Lower Bearing Casting.

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NEW DURNELL TYPE "B" UNDERPULL PUMPING POWERS

The recent development of deep oil sands is creating a demand for an economical way of lifting the oil when natural and artificial flowing methods cease to be an economy.

To meet this demand we have made enlarged improvements on our regular DURNELL UNDERPULL BANDWHEEL PUMPING POWERS, and we named it "TYPE B."

OUR POLICY, in bringing out this NEW and HEAVIER Type, is to maintain the standards of our regular 24 foot Bandwheel Powers, and not destroy any of the INTER-CHANGEABLE FEATURES of the parts, or make obsolete our 24 foot Powers now in use.

LARGER BEARINGS. WIDER FACE WHEEL RIMS. HEAVIER BRACES.

These are INTER-CHANGEABLE with any of our older types of 24 foot Bandwheel Powers.

WORKING PARTS, such as ECCENTRICS, BEARINGS and SHAFT may be RENEWED WITHOUT TAKING DOWN THE WHEEL.

All of the NEW and LARGER PARTS are designed so they may be installed on our 24 foot Powers now in use.

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BRASS BUSHED TOP BEARING. Bushing is tapered and may be driven out and EASILY AND QUICKLY RENEWED.

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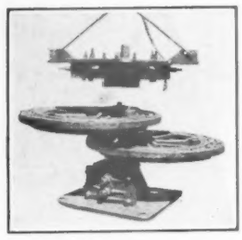

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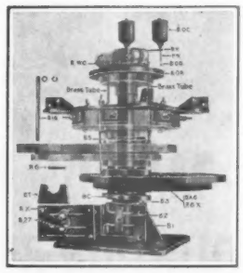

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at 2,060 feet; No. 152 is fishing tools in gray lime at 1,282 feet. In the East Dicha, No. 119 is in gray lime at 1,680 feet. In the Caracol, just west of Tampico, Mexican Petroleum Co.'s No. H-14 is in blue shale at 550 feet; No. C-21 is in gray lime at 1,821 feet; No. H-22 is in gray lime with shale breaks at 1,868 feet; Nos. H-24 and H-29 are each in gray lime at 1,785 and 1,979 feet, respectively; No. V-62 has cemented 8-inch in gray lime at 2,002 feet.

In the Salinas division, Mexican Petroleum Co. has No. 3 Shepard in black lime at 2,610 feet; No. 1 Budde in white lime at 2,640 feet; No. 3 Von Phul is in brown lime at 2,320 feet. National Lines' No. 60 Conteca is in gray lime at 1,755 feet; and it is rigging three more locations.

Northern Miscellany

In the Limon Hacienda the following obtains: Cia. Pet. Franco Espanlo (Marland) No. 63-A Limon is in gray lime at 1,475 feet; No. 90 is in lime at 2,205 feet; No. 97 is rigging rotary; No. 101 is in green lime at 2,460 feet, and derricks are up over two more locations.

Globe Petroleum Co. has two locations rigging in Lot 80 Quebrache, and one on Lot 76, same lease name. Sanchez and others' No. 2, Lot 1 Garruche (Corcovado), cemented 8-inch in gray lime at 1,280 feet. National Oil Co.'s No. 14, Lot 75 Quebrache, is rigging.

In the Salinas, Mexican Gulf Oil Co.'s No. 28 is drilled 2,630 feet, white lime, shut down for orders—it looks too deep. Gulf's No. 49, same, is in hard shale with lime layers at 1,622 feet; its No. 34 is shut down at 610 feet, and this also applies to its No. 54 at 164 feet. Kern Mex Oil Fields, Ltd.'s No. 3 Clarin is in lime at 2,350 feet, going deeper; its No. 4 Salinas is in gray lime at 1,865 feet; No. 17 is in gray shale at 1,312 feet; its Nos. 18 and 19 are each in gray lime at 1,855 and 1,550 feet, respectively, and five locations are rigging.

International Petroleum Co.'s No. 17, Lot 6 Corcovado, is fishing in gray lime at 1,985 feet.

South Fields

In the south fields, Huasteca Petroleum Co.'s No. 98 Tierra Blanca has the tools in the hole at 2,122 feet, gray lime, and it is waiting for the gas encountered to subside, there being much gas. Millan and others' No. 4, Lot 191 Amatlan, cemented 8-inch in gray lime at 2,033 feet. Mexican Eagle Oil Co.'s No. 34 Laguna de Tamiahua cemented 4¾-inch in sandy shale at 2,650 feet; its No. 19 San Diego is running 4¾-inch in shale at 1,665 feet; its No. 19 San Geronimo is in sand at 40 feet. Mordelo Vincent's No. 9, Lot 8 Tepetate, is spudding.

CALIFORNIA FIELDS

(Continued from Page 51)

soon as the Associated's second wildcat in this section recently passed the 4,000-foot level. The California Eastern's test nearby recently found a relatively thin oil sand and while it cut readily in ether it was not of sufficient thickness to result in commercial production. This wildcat still has a chance, of course, and while it is not definitely out of the running the outlook is not any too favorable. The failure of operators in the Potrero town lot section to find the sand reported by the Associated in its initial hole confirms the theory that the Associated has practicially every acre of potential oil land tied up and will thus control the destinies of this field if one should be opened up at this point.

The Shell company made good progress in both of its southern California wildcats, neither of which is yet deep enough to pick up the pay. George F. Getty's No. 1 Tubbs, a wildcat near Rivera, being drilled on a sublease from the Marland Oil Co., was reported down 3,528 feet several days ago and this hole will no doubt be watched very closely. The injunction proceedings brought against the Standard to prevent this company from wildcatting near Palms resulted in this controversy being placed before a local court for decision. The case was taken under advisement.

J. E. O'Donnell is abandoning his wildcat near Julian City at 4,920 feet without even making a production test. The area is not to be abandoned, as O'Donnell is pulling stakes on No. 1 and will drill another test a little less than half a mile to the east. It is reported some fair indications were logged in the first test but this information is being guarded very carefully and could not be verified. H. A. Bardeen, who has been attempting to develop production in the San Jose Hills at frequent intervals during the past several years, has run up against the usual water trouble encountered in this area and his No. 3 Didier is being recemented for the second time. Operators in this district have succeeded in finding favorable evidences of production from time to time but from a geological standpoint the prospect of developing commercial production is unfavorable. The encouraging indications shown in drilling have a tendency to lead operators on, even though the district has been condemned as far as large production is concerned.

Northern California Wildcats

Ventura County continues to be the most important wildcat area in California due principally to the operations of the Chanslor-Canfield Midway Oil Co. west of the prolific Ventura Avenue Field, where core samples have indicated the possible existence of a new field along the ocean front. The Chanslor-Canfield Midway interests have been geologizing this area for two years and, as a result, believe they will open up the next Ventura County oil field. Core samples extracted from No. 1-B Hobson have been exceptionally promising and those in close touch with developments in the area believe the Chanslor-Canfield Midway Oil Co. has a new field in the offing at this point. This concern, however, appears to have practically every acre of potential oil land tied up, although, of course, field boundaries cannot be definitely determined exclusively on geological deductions. As a result of the showings found in No. 1-B Hobson, the Chanslor-Canfield Midway Oil Co. has erected a steel rig on the lease which it recently acquired from the State of California, and actual spud will be made soon. This lease is particularly interesting because it is the first tideland permit to be taken out by a major operating company in California. Three other permits have been filed subsequently on beach lands in the vicinity of the new well to be drilled by the C. C. M. O.

The General Petroleum has re-entered its Kettleman Hills wildcat and a determined effort will be made to remedy the water trouble which has been holding up commercial production of clean oil. The Bolsa Chica resumed work early this week and this company will also endeavor to solve the water trouble encountered. The Royal Petroleum Co., a San Francisco concern, recently leased some 2,000 acres approximately 10 miles south of Bakersfield and a 122-foot wooden derrick will be erected on the Machada property in Section 31-30-28. A conclusive deep test is contemplated with work scheduled to get under way within 10 days. The Standard picked up some minor showings in its No. 1 Bacon at Belridge while drilling ahead in a hard brown shale at 3,050 feet and, while this show did not warrant the making of a test, it is very encouraging. The Shell's activities in the San Joaquin Valley during the week resulted in the leasing of another 40 acres near Edison in Section 26-29-29 and, while the company is not obligated to begin work within three years, it is possible developments may force the company to drill previous to this limitation.

GULF COAST FIELDS

(Continued from Page 46)

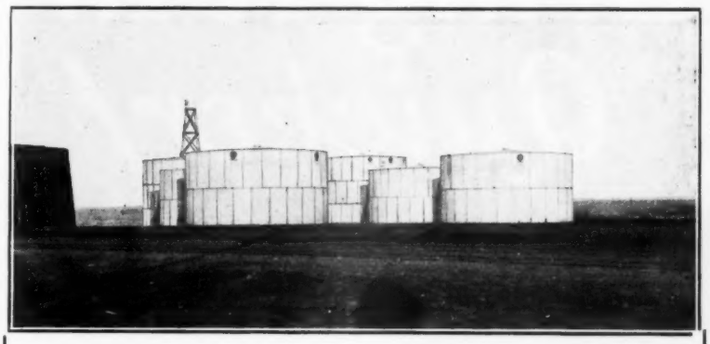
ing and the Sun company No. 79 Paraffin.

The East Side Oil Co.'s No. 1 Ogden at Saratoga is drilling around 2,565 feet.

Hull Pool

In the Hull Pool, J. H. Antilley will deepen No. 5 Abel. The Mecom Oil Co. will deepen No. 1 Taylor. Big Dome Oil Co.'s No. 2 Palmer is at 709 feet. The Texas-Vacuum joint No. 3 Taylor is sidetracking at 3,500 feet with a location for No. 7. The Gulf Production Co.'s No. 10 Phoenix is deepening at 2,700 feet, and

KEYSTONE COPPER STEEL



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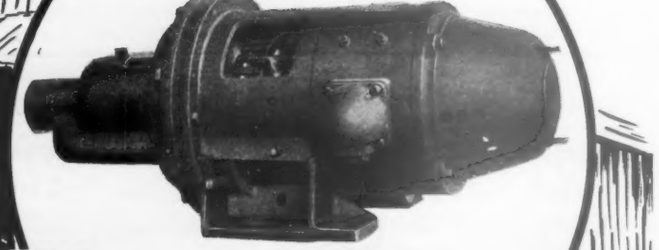

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No. 86 is drilling around 4,080 feet. The Republic Production Co.'s No. 33 Dolbear is working over and No. 98 Dolbear is drilling at 2,455 feet.

In the Goose Creek Pool, the Powell Oil Co.'s No. 6 Bryan is to be drilled deeper. The Gulf Production Co.'s No. 14 Chapman-Bryan is drilling at 2,445 feet. The Humble Oil & Refining Co.'s No. 71 Smith is at 4,010 feet, with No. 72 rigging.

The Humble Oil & Refining Co.'s No. 1 Kirby at Barber Hill in Chambers County is drilling at 3,900 feet. Barclay & Meadows have started No. 1 Winifrey.

The Sun Oil Co.'s No. 11 Cade at High Island is below 2,657 feet.

In the Orange Pool, the Gulf Production Co.'s No. 4 Granger is at 2,345 feet. The Rycade Petroleum Corp.'s No. 14-B Cow Bayou is drilling at 4,635 feet. The Texhoma Oil Co. will deepen No. 16 Chesson. The Tillery Oil Co.'s No. 3 State land in Cow Bayou is rigging.

Two holes will be deepened in the Big Creek Pool in Fort Bend County. They are The Texas Company's No. 2 fee and the Gulf Production Co.'s No. 29 Davis. The Gulf company is rigging No. 5 Beard.

Pierce Junction

On the northwest side at Pierce Junction, Lee & Woodward's No. 2 Settegast is at 2,918 feet. J. F. Bashara's No. 2 Bender is drilling around 3,716 feet. M. J. Bashara's No. 1 fee is rigging. The Marland Oil Co.'s No. 1 Prudent is being deepened at 3,765 feet. Smith and others' No. 1 Parsons is at 1,655 feet. The Rio Bravo Oil Co.'s No. 8 Settegast is rigging. On the east side of the dome, the Texas Exploration Co.'s No. 10 Dooley is shut down at 4,000 feet. The Gulf Production Co.'s No. 20 Taylor is drilling around 4,043 feet.

At Blue Ridge, the Overly Production Co.'s No. 1 Blakely is below 5,070 feet. The Gulf company's No. 11 West-Schenck is drilling at 1,190 feet. The Navarro Oil Co.'s No. 2-A Robinson is drilling around 2,919 feet. No. 1-B Robinson is rigging. W. E. Woodruff's No. 2 Adams is below 455 feet.

The Texas Company's No. 23 Arnold at West Columbia is drilling at 3,719 feet. It is rigging No. 83 Hogg on the north side of the pool.

Wildcats Abandoned

Two tests were abandoned off the Stratton Ridge Dome in Brazoria County. The Associated Oil Co. quit No. 1 Seaburn at 4,084 feet, after a fishing job. The Gulf Production Co.'s No. 2 Perry on the south flank went into rock salt at 3,045 feet and abandoned the hole at 3,160 feet. The Texas Company abandoned No. 1 Carter, near Piedger at 1,035 feet. Stark and others' No. 1 at Hinkle Ferry quit at 770 feet.

The Gulf Production abandoned two tests off the Hawkinsville Dome in Matagorda County. No. 3 Parkinson went into cap rock at 965 feet and No. 8 Craig quit at 5,092 feet.

The Gulf company's No. 3 Bordages, off the Fannette Dome in Jefferson County, bailed salt water at 5,329 feet and will be drilled deeper.

The Arkansas Fuel Oil Co. abandoned No. 1 Bouland in Shelby County at 3,720 feet.

Austin County

Raccoon Bend district: Humble Oil & Refining Co.'s No. 1 Bellville is drilling at 3,890 feet. Hickory Mound: R. E. Graves' No. 1 Cleveland is drilling around 1,500 feet. Bellville: Mewis and others' No. 1 Mewis idle at 1,505 feet. J. S. Smith is rigging No. 1 Pemical.

Brazos County

J. A. Germany of Dallas has locations for three tests southwest of Bryan.

Brazoria County

Allen Dome: Roxana Petroleum Corp.'s No. 1 Bernard River is working over. No. 4 Allen is drilling around 2,235 feet. A derrick is up for No. 1 Randon. Clement Dome: Roxana Petroleum Co.'s No. 2-A Pabst is drilling around 5,600 feet. No. 4 Clement is at 4,908 feet. Hinkle Ferry: Starks and others' No. 2 rigging. Stratton Ridge Dome: Pure Oil and Humphreys Corp.s' joint No. 1 Armstrong is drilling around 4,215 feet. Anchor: Staley and others' No. 1 Glover is idle at 1,120 feet. The Danciger Oil Co. has a location for No. 1 Bartlett 3 miles west of West Columbia.

Fort Bend County

Long Point Dome: Gulf Production Co.'s No. 5 Beard drilling around 1,700 feet. No. 3 Wolfe is about 815 feet in sulphur. No. 3 Trone is at 815 feet in cap rock.

Grimes County

Locations have been made for Saunders & Steel's No. 1 W. Edwards and J. E. Prundt's No. 5 Cutheral.

Fayette County

The Magnolia Petroleum Co. is rigging a test 9 miles northeast of La Grange.

Harris County

Hockley Dome: Humble Oil & Refining Co.'s No. 1 Warren is drilling around 2,700 feet. Juniata Oil Co.'s No. 1 Kitsman is at 770 feet, near Cypress. Dr. P. S. Griffith's No. 2 fee is fishing at 3,520 feet.

Jefferson County

Big Hill Dome: Houston Oil Co.'s No. 2 Fitzhugh is at 3,145 feet. Leonard Petroleum Co.'s test near Port Arthur is idle.

Liberty County

North Dayton Dome: D. J. Harrison's No. 1 Quintette is sidetracking at 4,300 feet. Union Sulphur Co. has started formation tests on the north side on the Schindler.

Nacogdoches County

Sell Oil Co.'s No. 2 Birdwell, near Chireno, is rigging. Steine & Lewis' No. 1 Birdwell is shut down at 1,080 feet.

Houston County

The Texas Company's No. 1 near Lovelady has spudded in. Porter Oil Co.'s No. 4 Austin is around 2,200 feet.

Tyler County

Jasper Oil Co.'s No. 1 Stone is drilling at 545 feet.

Shelby County

Magnolia Petroleum Co.'s No. 1 Pickering is at 2,400 feet. Sebastian and others' No. 1 Pickering has set surface casing.

Matagorda County

Hawkinsville Dome: Gulf Production Co.'s No. 3 Sanborn is drilling around 3,390 feet.

Montgomery County

Brain and others' No. 1 Fitch, northeast of Spring, is shut down at 2,350 feet. Same interests are rigged south of Tom Ball.

Orange County

Gum Island: Miller Drilling Co.'s No. 1 Brown is drilling around 3,710 feet. W. C. Wells' No. 1 Stark on Adams Bayou is below 3,830 feet.

Washington County

Mill Creek Dome: Smith and others' No. 1 Pomical set surface casing at 175 feet. Pratt-Hewitt Co.'s No. 2 Kominscky is drilling around 3,300 feet. C. A. DeWare's No. 1 Lehmann, near Brenham, is idle at 2,730 feet.

South Louisiana Pools

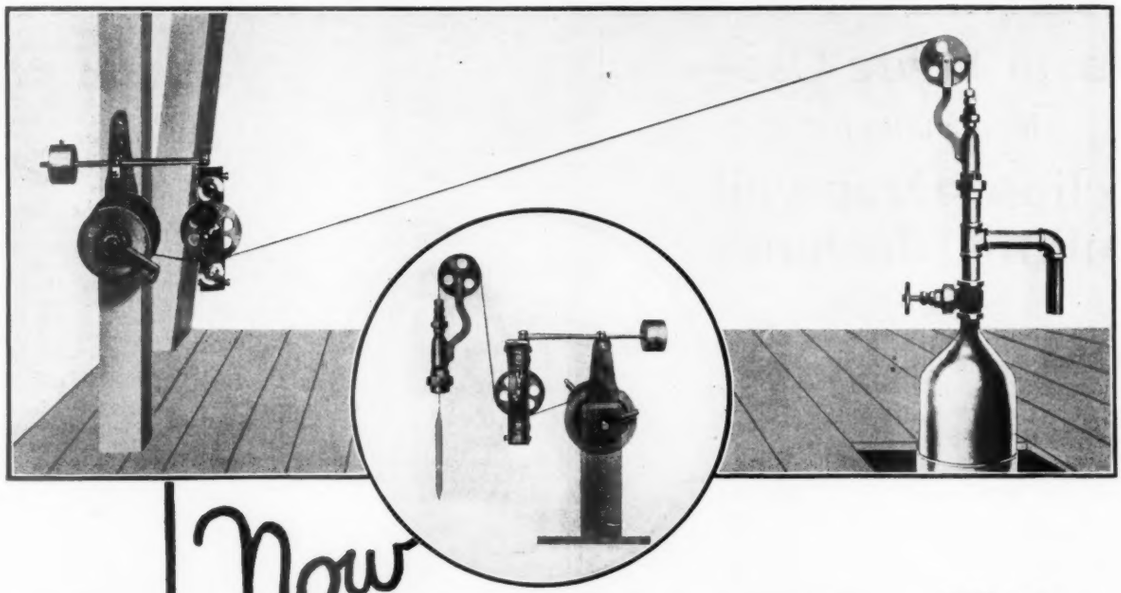
In the Stark Pool in Calcasieu Parish, the Gulf Refining Co. set 6⅝-inch casing in No. 5 Lutcher-Moore at 4,744 feet to test a sand at 4,751 feet—61 feet showing oil. No. 1 Industrial Lumber Co. is drilling around 4,000 feet.

In the Lockport Pool, the Vacuum-Gulf's joint No. 16 Miller is drilling around 4,755 feet. No. 17 Miller is at 3,300 feet. No. 5 Farquhar is drilling around 4,675 feet, and No. 6 is at 3,815 feet. No. 4 Friedberg & Wolf is at 2,670 feet. No. 4 Bordages is a location.

In the Jennings Pool, Cline & Smith's No. 2 Wilson is deepening at 1,655 feet. The Mentau Oil Co.'s No. 2 Pierce is at 1,830 feet. The Texas Company's No. 3-B Latrielle is around 2,100 feet, and No. 1 Rayne is below 4,600 feet.

In the Edgerly Pool, C. M. Crotty's No. 12 Lilliard is drilling at 2,345 feet. Rex Petroleum Co.'s No. 5 Hunter is deepening at 3,976 feet, and No. 6 Hunter is drilling at 2,455 feet. Gulf Refining Co. is rigging No. 42 Bright-Penn, and the Hercules Oil Co. No. 2 Paraffine. Green Oil Co. is rigging No. 8 Moore.

In the Vinton Pool the Gulf Refining Co.'s No. 42 Star is drilling at 2,765 feet. Vinton Petroleum Co. is rigging to deepen No. 37 Gray and is drilling No. 7 Rescue at 2,545 feet. Louisiana &



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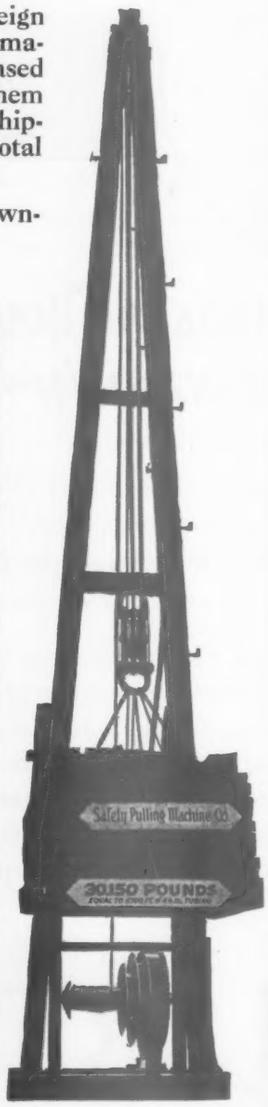

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Colorado Oil Co.'s No. 1 Johnson is below 2,670 feet and drilling ahead.

MISCELLANEOUS

Calcasieu Parish

Sulphur Dome: Union Sulphur Co.'s No. 720 fee is at 4,395 feet. Doctor Hintzse's No. 1 Binkenstein is preparing to test 19 feet of sand showing oil at 4,260 feet. Calcasieu Lake: Border Research Corp.'s No. 1 is drilling at 4,985 feet.

Cameron Parish

Sweet Lake Pool: Pure Oil Co.'s No. 4 is at 3,543 feet. No. 5 is drilling below 4,056 feet. Hackberry Island Dome: Yount Lee Oil Co.'s No. 4 State land is at 4,400 feet. No. 10 Gulf land is around 4,345 feet. Calcasieu Oil Co.'s No. 1 Caldwell is at 1,845 feet. The Border Research Corp.'s No. 1 Mallard Bay is at 2,875 feet, and No. 1 in Sabine Lake is below 1,700 feet.

Iberia Parish

Eagle Point Dome: Gulf Refining Co.'s No. 2-Z State land is idle at 1,365 feet as is the Calcasieu Oil Co.'s No. 1 Schwing at 3,000 feet. Border Research Corp.'s No. 1 in Vermillion Bay is drilling around 1,900 feet. Jefferson Island: Border Research Co.'s No. 1 West Cote Blanche is drilling below 700 feet. No. 1 in Grand Lake is idle at 4,520 feet.

St. Mary's Parish

Jefferson Oil & Development Co.'s No. 3 Salt Mine, to the northeast of the salt dome, is shut down at 4,520 feet. A hole was worn in the 10-inch casing at 438 feet, which continues to fill the hole with sand and gravel, which requires about 8 days to drill to the bottom of each attempt.

Jefferson Oil & Development Co. is a reorganization of the old United Oil & Gas Syndicate, which drilled seven tests about the Jefferson Island Dome. They were: Nos. 1 and 2 Le Blanc, No. 1 Landry, No. 1 Bayliss & Jones, No. 1 Loughridge and Nos. 1 and 2 Salt Mine. All were drilled and abandoned below 4,000 feet except Nos. 1 and 2 Le Blanc, which were abandoned around 2,800 feet. A location to follow No. 3 Salt Mine has not been determined.

In the Vinton (La.) Pool, the Vinton Petroleum Co.'s No. 19 Vincent is a 35-bbl. pumper at 2,900 feet. Marrs McLean's No. 1 G. N. G., a worked-over well, is good for 30 bbls. at 1,750 feet.

Gulf Coast Oil Co.'s No. 35 Galliard, a worked-over well in the Goose Creek Pool, is good for 35 bbls. at 2,030 feet.

Jennings Petroleum Co.'s No. 1 Crowley in the Jennings Pool got salt water at 2,310 feet.

FARMINGTON, N. MEX.

(Continued from Page 46)

Ohio. He reports that he has returned instructed to install a rig on Section 24-30-13. The well now has a heavy gas flow and this will be utilized for fuel. The well is reported to spray some oil when the gas is allowed to flow. Operations will be resumed on the property at once, $100,000 having been appropriated for the purpose. The test is being made on the Glade structure, 6 miles northeast of Farmington.

Glen L. Coffee, field manager for the Senate Oil Co., is now in Texas, where he will purchase a rig and equipment and have it trucked in for the purpose of deepening the Congress-National well on the Garland permit, Section 34-29-11, and which will be used in making some other tests in San Juan County.

Bloomfield District

The Huerfano Oil Co., operating in the Bloomsfield district south of the San Juan River, Section 25-29-11, had a little trouble with a broken shaft, but the repair has been made and it resumed drilling at a depth of 175 feet.

One of the large distilling tanks used in removing the gasoline from the gas before pumping it back into the wells exploded at the Rattlesnake oil camp, doing considerable damage but luckily injuring no one. The cause of the explosion is unknown. They were installed about a year ago.

The Continental-Santa Fe companies, operating on the Rattlesnake structure, in the deep test No. 17, Section 2-29-19, have their rotary machine in operation and are working to sidetrack the lost tools.

It is reported that the Ohio Oil Co. has definitely decided to drill what is known as the Chico structure, 18 miles west of the Hospah structure which the Midwest Refining Co. and others are drilling, and that later it will drill the Stony Butte structure near Pueblo Bonito.

C. S. Ringle, drilling on contract for Benedum-Trees interests, has the casing nearly all pulled from the first test well and will soon be moving the rig to a location 1 mile east which is believed to be higher on the structure.

The Mid-Continent Oil Co., operating in the Bloomfield district, Section 22-29-11, in the west Ransom tract, was drilling at a depth of 560 feet at the last report.

Operations continue on the Miley Oil Co.'s test on the Red Mesa structure to sidetrack the lost tools at the bottom.

R. M. Smith, who is the principal operator in the Bloomfield district, has returned from a trip to California where he conferred with his associates. He will continue his operations in this district for shallow production but will not attempt a deep test at this time. B. B. Owen will drill a well where the rig is up for the deep test, but will not attempt to go below the shallow sands.

Wiley & Craft, drilling under a contract with R. M. Smith on the Shuetz tract in the Bloomfield district, struck the producing sand and got a flow of oil estimated at 5 bbls. per day. They plan to drill deeper very cautiously to avoid water and believe they will get a good small well.

The rains have made the roads so muddy in the vicinity of the Mancos River structure that no report has been received.

William Skeen and associates are bringing in a rig and will begin operations in the Bloomfield district as soon as it arrives.

The Kansas-Colorado Oil Co., which has taken over the development work on the Atteberry tract, Section 24-31-11, has purchased a rig and as soon as it arrives the hole will be drilled to the Mesa Verde sand.

The Union Oil & Mining Co., operating in the Blanco district, Section 8-29-9, is closed down awaiting the arrival of a string of 5-inch casing from the Red Mesa structure. A head of gas this week blew the tools loose, but the drillers were unable to lift them with their cable.

KANSAS FIELDS

(Continued from Page 44)

feet. Superior Oil Co.'s No. 2 Knalbe. SW cor. NW Section 7-31-11, has been abandoned at 2,025 feet after having a show of gas at 1,125-50 feet.

Greenwood County

The Texas Company's No. 1 Hale, SW cor. Section 31-22-12, is a machine. Simmons and others have a machine on the location for No. 1 Cox, NW cor. NE SE Section 1-25-11. Henderson & Holdren's No. 2 Turpen, SW cor. NW NE Section 28-26-9, is drilling at 665 feet.

Tidal Oil Co.'s No. 31 Hull, CEL NE SE NE Section 34-25-8, is dry and abandoned at 2,510 feet. Hayes and others' No. 1 Boyce, SE cor. Section 17-28-9, is dry and abandoned at 2,937 feet.

McPherson County

Johnson and others' No. 1 Kuns, SE cor. NW, Section 12-19-3w, has been abandoned at 3,520 feet.

Morris County

Nicols and others have moved a machine to the location for No. 1 Heigel, SW cor. SE Section 11-17-7.

Rice County

Sand Creek Oil & Gas Co.'s No. 3 Jacobson, NE cor. SE NW Section 2-21-6w, is a dry hole at 3,440 feet.

Sumner County

Champlin Oil & Refining Co.'s No. 1 Wheeler, SW cor. SE Section 4-30-1w, is dry and abandoned at 3,935 feet. Roxana Petroleum Corp.'s No. 2 Sleigh, C S half NW SW Section 25-31-2, was shot with 70 quarts in sand at 1,854-99½ feet and is producing 437 bbls.

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BAKER FLOAT SHOE

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The Baker Cement Shoe is used where the string of casing is so heavy that it is advisable to set on the bottom, also where there is no choice. It differs from the Float Shoe in that the opening in the guide is plugged, the holes being drilled in the shoe below the valve, through which the cement can be ejected. The flare at the bottom of the Baker Plain Shoe tends to center it in the well and the holes in the shoe are left free and open as an outlet for the cement.

BAKER FLOAT SHOE

The Baker Float Shoe is designed for those operators who prefer a back pressure valve at the end of the string, with all the strength and safety of a Baker Float Collar, which is usually placed one joint from the bottom. It is designed for floating in long, heavy strings of casing, and embodies the same internal plug and back-pressure valve used in the float collar. Can also be used to cement through.

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ENGINEERING VIEW ON COUNTERBALANCING

(Continued from Page 84)

ers. It was likewise the counterbalance on the crankshaft of an automobile and the flywheel that made the automobile practical for high speeds and which also reduced the vibration of the motor.

For the same reason, before we connect an electric motor, steam engine or gas engine which delivers uniform power to the bandwheel, we should first equalize the load of the well. This can be done to a certain degree with the bandwheel counterbalance. It is first possible to equalize the load on the bandwheel to where the belt is pulling as much on the downstroke of the rods as on the upstroke. In addition to this consider Figure No. 1 using circle A-C-E-G, as a crank circle. There is very little rod travel, which is shown as distance "X." As the crank passes through the top and bottom quadrants most of the rod travel, which is shown as distance "Y," is in the other quadrants. The work to be done in each quadrant is in proportion to the rod travel. Energy is stored up in the equalizer as it passes through the top and bottom quadrants which reduces the load in the other quadrants. If it were possible to run the bandwheel from 50 to 60 revolutions per minute, we would have an even load throughout the entire revolution, which would produce the desired power curve shown as Curve "N." At this point we are using the equalizer as a flywheel and as the equalizer appears to be moving slowly it is necessary to refer to the law of moving bodies, in which the momentum is equal to the weight of the moving body times the velocity at which the body travels.

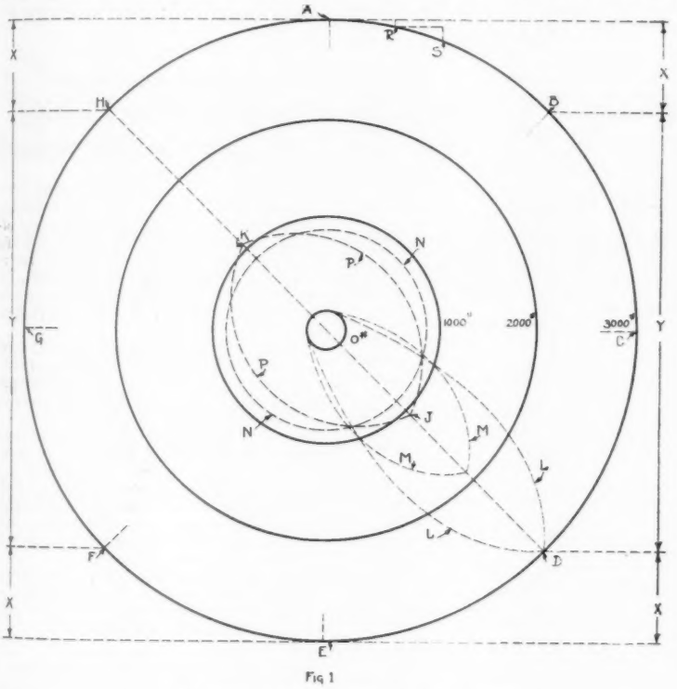

Fig 1

L = Belt Load without Counterbalance
M = Belt Load with Rods Balanced Only
P = Belt Load on Properly Equalized Well
N = Desired Curve

An Example

In the automobile a small flywheel running at high speed smooths out the curve, while the stationary gas engine requires larger flywheels at a slower velocity. In order to see the efficiency of an equalizer on a pumping well, consider the following example using an equalizer weighing 4,000 pounds on an 11-foot bandwheel, making 25 revolutions per minute. The weight would be traveling at the rate of about 760 feet per minute. The momentum would be 4,000 by 760, which would be e qual to the momentum created by a flywheel 5 feet in diameter weighing 1,000 pounds and running at a rate of about 210 revolutions per minute.

In considering the belt load on a pumping well we should remember that it requires as much force to stop a moving body as it required to bring the body up to a given speed or before the maximum load can reach the belt, the speed of the equalizer must be retarded.

No doubt, most operators are familiar with the advantages of the equalizer on belt loads, but as the same power curves show the efficiency of the electric motor, we will refer again to Figure 1. The maximum load as shown by the ampmeter or dynameter occurs when the crank is about three-quarters of the way down. On an uncounterbalanced well the load is shown by curve "L." On a well where the rods only are balance, the load is shown by curve "M." On a well properly equalized and taking into consideration the centrifugal motion, the load is shown as curve "P," where the ampmeter reading is the same at points "J" and K." The desired load is shown as curve "N." being an even load throughout the entire revolution.

As the load has now been equalized and transferred into centrifugal motion this curve can be more nearly approached by the use of additional flywheels. Manufacturers, in some cases, have placed small flywheels running at high speed between the motors and reduction gears in pumping units. Some manufacturers, at present, are placing a flywheel on the shaft that carries the belt pulley. This flywheel not only helps the belt or chain going to the bandwheel by making the pull all in one direction, but distributes the load on the chain or gears in the unit itself and gives nearly an even load on the motor which reduces the working temperature saving additional power.

Rod Movement

There are several important points to be considered as to the cause of rod trouble and remedies. First, what causes the maximum load on the rods? Is it the starting of the fluid in motion or the friction caused by the fluid being forced up through the tubing at a high rate of speed? As previously stated the dynameter on the rods shows the maximum load to occur when the crank is about three-quarters of the way down as shown by point "D," Figure 1. The load on the rods, after they are in motion, is equal to the weight of the rods and fluid plus friction. The load on the rods caused by starting the fluid in motion is equal to the weight of the rods plus the weight

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of the fluid times the velocity at which the rods are traveling upward when the fluid is started in motion. If the fluid is picked up when the crank pin is at Point "A" the velocity of the rods upward is zero and the load is equal to the weight of the rods plus the weight of the fluid. The rod speed upward is very little when the crank reaches points "R" and "S," but increases rapidly after point "B" is reached. The maximum rod speed occurs at point "C," at which point the friction of the fluid is the greatest. If the maximum load is caused by fluid friction we still cannot account for the maximum load occurring when the crank is at point "D" instead of point "C" unless this difference in distance is caused by the stretch in the rods It is at least evident that the maximum load on the rods is caused by fluid friction rather than by starting the fluid in motion as we know that the maximum load can be decreased by using a 2½-inch plunger in 3-inch tubing instead of a 2½-inch plunger in 2½-inch tubing.

It is also evident that it is not the maximum load that breaks the rods but the momentum caused by starting the fluid in motion when the rods pick up the fluid while traveling a high rate of speed or at a point where the crank has passed top center as shown by point "B," Figure 1.

There are two reasons for the pickup of the fluid occurring near point "B." First, gas action, and, second, slack rods. Gas action is caused by the plunger compressing the gas on the downward stroke holding up the ball in the plunger. As the plunger travels upward, the ball does not seat until it reaches a point where the gas pressure is equal to or less than the pressure caused by the fluid head in the tubing. This condition can be improved by proper gas anchor or in some cases by pumping the well with a short, fast stroke.

Slack Rods

Slack rods are caused by the lack of proper counterbalance. Rods are designed with a safety factor of many times the load they are required to lift. If we would take the plunger off the rods and let them hang freely the force of gravity would keep them tight and they could be moved up and down indefinitely, if the total load were double the present rod and fluid load, without becoming fatigued. Instead, we have a plunger on the bottom with a small opening through which the fluid must pass, which retards the fall of the plunger. Therefore, the speed at which the plunger can fall determines the maximum speed at which a well can be efficiently pumped.

Take, for example, a well pumping at 25 revolutions per minute. Each revolution would take 2.4 seconds. If the well is not counterbalanced the crank comes down slowly, in some instances nearly stopping at point "D" where the belt slips. Assume that two-thirds of the 2.4 seconds is used on the upstroke of the rods. The plunger can only fall at a given rate of speed. The crank passes lower center and the engine has no load to hold it and the rods hanging on the walking beam pull it ahead and cause the crank to reach top center in only .8 of a second. The result is that the plunger does not reach its required stroke and as the crank travel is fixed it is necessary for the crank to pick up the load somewhere between points "A" and "C" due to slack rods. On a properly equalized well the crank travel is equal throughout the crank revolution. The rods move through the upward stroke in 1.2 seconds and the plunger has 1.2 seconds in which to fall. It is then only necessary to control the speed at which the well is pumped to insure tight rods and to cause the pickup of the fluid to be near point "A."

Weighing Rod Loads

This brings up another point on the centrifugal balance which has been misleading to some operators. Rod loads have been weighed with the dynameter on wells without balance, with the old reciprocating balance, and with the centrifugal balance—the maximum load being greater with the centrifugal balance. It is also true that the minimum load is greater and the foregoing example offers the explanation. The rods are lifted faster with the centrifugal balance, causing more friction load on the upstroke and the plunger has more time in which to fall on the down stroke, which keeps the rods tighter, causing more weight on the dynometer. There is also an increased plunger travel making it possible to pump more fluid. Rods designed by the present safety factor will stand a load of 15,000 to 20,000 pounds better than a load of zero to 10,000 pounds as it is the changing stresses that cause the rods to become fatigued.

The increased plunger travel must be taken into consideration in a power test on a motor to get the saving of electricty. It is not only necessary to measure the amount of electricity used but also to know the amount of fluid pumped, without balances, and, with the different types of balances, in order to compute the power consumed in kilowatts per barrel pumped.

The equalizer or centrifugal balance is not only correct in principle, but the construction is such that sectional weights can be added so as to perfectly equalize a pumping well. It is a step forward in the manufacture of high-grade equipment, which is necessary to place oil field operations on an equal plane with other industries.

Continued Increase In Motor Car Making; Big Foreign Movement

DETROIT, Mich., June 18.—The diversity of models and prices of American-made motor cars is shown in a recent official report of the National Automobile Chamber of Commerce. This report points out that there are now 620 models of American motor cars, ranging in price from $360 to $9,000, the product of 43 manufacturers.

For the first four months of 1927 total production, exclusive of Ford, was 1,092,915 cars and trucks. This is an increase of 66,593, or 6½ per cent over the corresponding figures of 1926.

A call for trucks and more of them continues and truck builders are satisfied present activities will continue for months to come. Graham Brothers, Federal and Republic truck companies report increased demand for their goods, and there continues a never-decreasing call for bus chassis and bodies.

Overseas shipments of trucks during the first two weeks in May broke all previous records, according to figures just released by truck manufacturers.

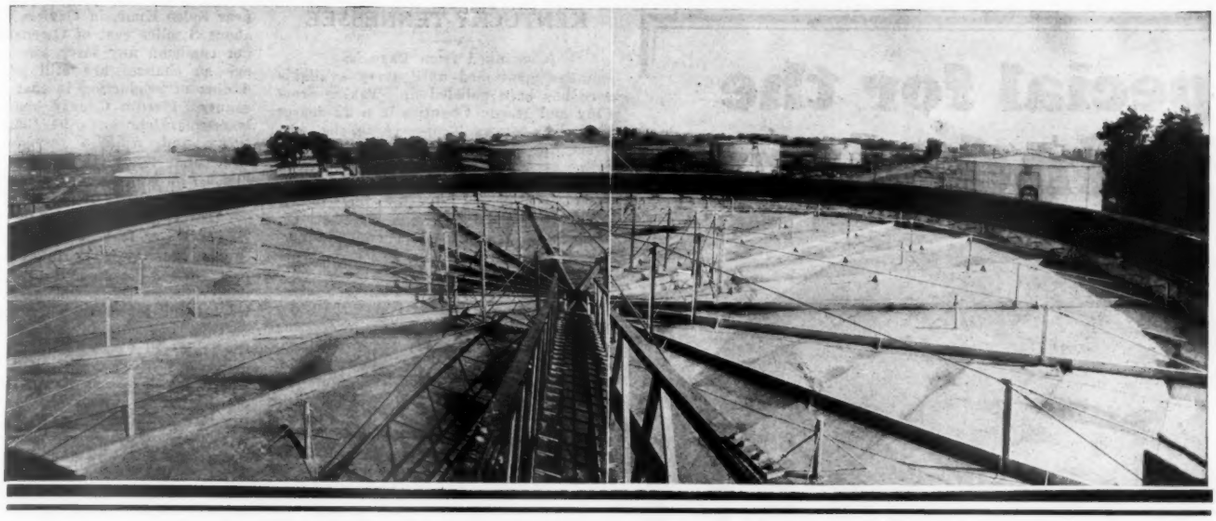
SHREVEPORT GEOLOGISTS ON EAST TEXAS TOUR

Hot, tired and dirty, members of the Shreveport Geological Society returned from a rushing two-day tour of east Texas, studying various formations and outcrops. The party, which traveled by automobile, was accompanied by six members of the staff of the State Department of Conservation, including W. F. Chisholm, director of the minerals division at Shreveport; N. V. Kinsey, J. H. Stinson, D. S. Cook, P. B. Meyer and R. G. Cole.

The trip is an annual event, previous tours taking the geologists over various sections of Arkansas and north Louisiana. The itinerary this year took the party through Center, San Augustine, Lufkin and Nacogdoches, Tex., and on the route the Wilcox and Claiborne outcrops, the San Augustine beds and various other formations were visited.

TURKISH OIL CLAIMS

According to the Manchester Guardian, a Turkish oil company which was founded a year ago for the production and sale of petroleum has secured extensive claims in the various oil regions, particularly near Mereft in the Gallipoli Peninsula and in the vilayets of Erzerum and Van, on the border of the vilayet of Bitlis, and in the Adalia district. This zone forms the prolongation of the North Permian oil strata.



Suppose you multiply this saving by 197,100

If this tank were handling 5,000 barrels of gasoline daily, the Wiggins Roof would be responsible for a saving of 6.5 barrels as compared to the evaporation that would result in an ordinary gas-tight tank. This is based on both theory and experience showing average savings amounting to about 0.13% of the total volume of gasoline pumped.

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or 197,100 times the saving referred to above. This amounts to 1,281,150 barrels per year which at only 7 cents per gallon is worth $3,775,000.

Wiggins Roofs stop the evaporation loss on working tanks or standing storage. Ask for our bulletin "Stopping Evaporation" or let us quote on Wiggins Roofs for your tanks.

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KENTUCKY-TENNESSEE

(Continued from Page 58)

counties mentioned until every available acre has been gobbled up. Taking from Clay and Macon Counties in a 22 degree line clear across Tennessee to the Alabama line leasers are rushing into that area, as many good looking structures have been found. While numerous wells have been drilled on this line it appears that their locations were on the outer edges of the most prominent structures, and in nearly every instance either oil or gas showings were encountered at various depths. Boiling Springs with its numerous hotels makes the Clay-Macon County area quite an interesting spot, there being a macadamized highway running from the Springs to Scottsville. The Ohio Oil Co. has secured a large acreage under lease along this line from Scottsville to Celina. Lyman C. Scott, well-known leaser and operator of Toledo, has also secured several thousand acres in the two counties.

Week's Work

A summary of the week's work in the Kentucky fields show 17 completions, 11 producers with an initial production of 546 bbls., and 6 dry holes. When compared with the previous week there were four less completions, four less producers, 140 bbls. more production, three less gas wells and the same number of dry holes. The wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry	Gas
Ohio	7	5	476	2	0
Daviess	5	2	62	3	0
Barren	5	4	8	1	0
Total	17	11	546	6	0
Last week	21	15	406	6	3
Difference	4	4	140	0	3

Wildcat Operations

In the western division of the Kentucky Field prospects are for an active wildcat development in many of the counties that are already producing oil and some that are not.

Advice from Calhoun, in McLean County, is that within 30 days oil drilling in that county will be started, when W. J. Rodgers, of the Star Producing Co. of Chicago, will begin drilling on the Carl Hatfield farm. Within 60 days another well will be drilled on the farm of Jack Ratcliff, by Demeric Brothers of Huntington, W. Va. For several weeks representatives from four companies have been in McLean County securing leases on thousands of acres. These lands, where the test wells will be drilled are located in the northeast part of the county about 9 miles from Calhoun. For many years evidences of oil and gas have been found in shallow wells being drilled for water. This led citizens of the county to believe that productive wells would eventually be drilled. McLean County lies to the west of Ohio County and south of Daviess County, and not far removed from the Ambrose Pool, which is now without doubt the best pool in the Blue Grass State as far as good producing wells are concerned and oil found at comparatively shallow depths, ranging around 700 feet deep.

Other counties in the northwestern portion of Kentucky that are in line for wildcat development are Union, Webster, Henderson, Hopkins, Muhlenberg, Butler, Breckenridge, Meade, Hardin, Grayson and Edmonson, any of which are liable to develop good production in both oil and gas.

Another interesting wildcat is that drilling by Miller & Dameron on the Wiley Colyer 66 acres, to the northwest of the Ambrose Pool, in Ohio County and north of the Lake farm. To the west of this same pool, and west of Union Grove Church, C. E. Daugherty and others are nearing the sand at a test on Susan Bartlett's 100 acres, while the Leeper Oil Co. is nearing sand at a test on the Massie farm, not far from the drilling well on the Bartlett farm, both being almost directly west from big production in the Ambrose Pool.

The striking of salt water at a depth of 1,181 feet at the wildcat of the Spice Dome Oil Co. on the C. H. Bell 70 acres, near Spice Knob, in Daviess County, and about 8 miles east of Owensboro, should not condemn any large amount of acreage as chances are still good for the finding of production in that part of the county. Hardin County has one of the largest anticlines to be found in Kentucky, and, while a very few ventures have been made, the county has never had a fair test, located east of the Ohio-Hancock-Daviess County fields and north of Warren and Barren Counties.

Ohio County

The rich Ambrose Pool is doing its best toward keeping Kentucky's oil industry before the world, getting the best wells being found anywhere in the State at this time, due to the pool opened by the Ohio Oil Co., and later extended by operations of James C. Ellis on the J. R. Weller farm, and it was the big wells on the Weller lease that brought about the late activity.

The best of the late completions in the Ambrose Pool was the Ohio Oil Co.'s No. 5 well, 200 feet from the north line and 530 feet from the east line of the Rodney Taylor 58 acres, which showed an initial of 200 bbls., after given a 140-quart shot. A string of 657 feet of casing was set in this well; sand found from 660-704 feet, and drilled to a total depth of 712 feet.

The next best completion was the Creek Drilling Co. and others' No. 3 on the George Early 112 acres, in the same pool and just south of the Weller farm, which is reported showing for 160 bbls. initially. This well is approximately 200 feet away from a duster on the same farm, which to some is a surprise but to others it is known as a possibility in any Kentucky field.

The Wood Oil Co.'s No. 6 well, 200 feet from the south line and 530 feet from the east line of the Mary J. Elmore 100-acre farm, north of the Ohio Oil Co.'s Rodney Taylor farm, and west of the W. Scott Ambrose lease of the Rex-Pyramid Oil Co., set 678 feet of casing, found sand at from 678 to 717 feet and went to a total depth of 725 feet and given a 110-quart shot, and produced for the first 24 hours 100 bbls. Same company's No. 6 well, on the Deane & Deane farm, near Collier Station and northeast of the Ambrose Pool, set 480 feet of casing, found sand at from 493 to 500 feet, and drilled a 12-foot pocket, making the total depth of 512 feet and shot with 40 quarts. The well's initial production was 10 bbls.

The Creek Drilling Co. and others' test, in the northeast corner of the C. Russelberger 60 acres, west of the Midkiff Pool and north of the Ambrose Pool, north of Panther Creek Church and west of a small pumper on the A. and T. Dickens farm, is reported a dry hole at a depth of 832 feet, passing through both the Jett and Barlow sands without indications of oil.

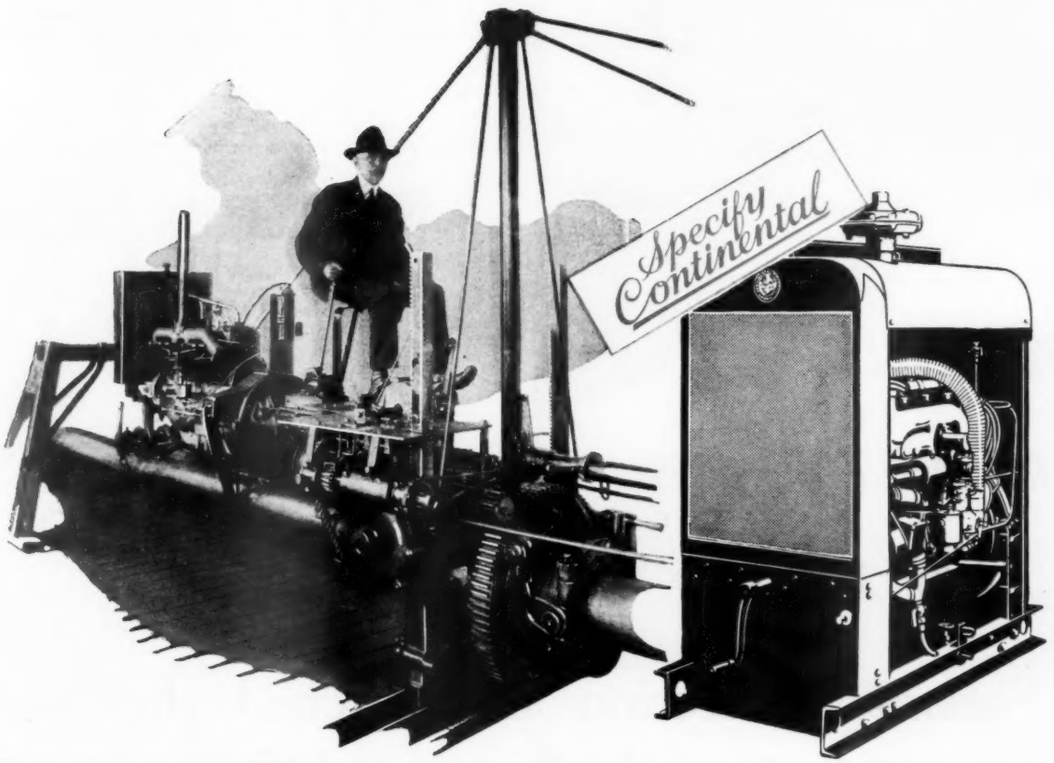
In the north end of the county, west of the production on the R. M. Miller farm, near Herbert School, R. A. Henry's No. 4 well, 800 feet from the north line and 200 feet from the east line of the S. V. Flowers 32 acres, is reported at 6 bbls. This lease was formerly purchased from the Kentucky Oil Co., and in the heart of the Pellville Pool, or Panther Church area.

The Butte Dredging Co.'s test, 600 feet from the south and west lines of the 150 acres, adjoining the Griffith and Kelly farms, developed a nice gas volume but after giving it a shot it was found to have too heavy a dose of water and was plugged. This well is northeast of the Midkiff Pool.

Daviess County

The Chicago Petroleum Syndicate secured a good producer in No. 6 on the Nannie Brown farm, that is the portion of this farm that lies in Daviess County. The well was cased at 736 feet, found sand from 746 to 772 feet and went to a total depth of 782 feet, and was shot with 100 quarts. The first 24 hours' production amounted to 50 bbls.

Leeper Oil Co.'s No. 4, on the John Roby farm, southwest of Pellville and near the Daviess-Hancock line, is reported good for 12 bbls. initially. No.



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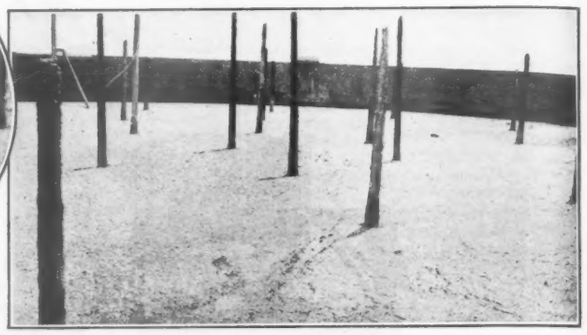

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5, same farm, is due in the same. In the same vicinity, the Petroleum Exploration Co.'s No. 1, on the W. N. Vaught farm, was a duster.

George Randolph and others' test, 800 feet from the north line and 200 feet from the east line of the G. H. Hinton farm, and just south of Whitesville, was a dry hole at 796 feet.

Barren County

The Glasgow Field of Barren County is keeping up its usually large development while small wells were the results of the week. In the Lecta Pool, southeast of Glasgow, Jones & Breeding's No. 3, on the Mayfield farm, is a 3-bbl. pumper, and Tim Biard struck a dry hole at a test on the Richardson Nichols farm, at 502 feet.

In the Hall Baker Pool, the Star Oil Co.'s No. 7, on the Free farm, is good for a 2-bbl. pumper.

In the Coral Hill Field, the Esslinger Oil Co.'s No. 4, on the Sara Wright farm, pumped 3 bbls. at 373 feet. The pay was found in the gas sand at from 365 to 373 feet. Moore & Scott's test, on the Jones Brothers farm, pumped but 1 bbl. Baird Oil Co. is near sand at a well on the Baird farm on South Fork

No completions are reported from Warren and Allen Counties, nor Cumberland and Clinton Counties.

STANDARD REPLIES TO UNIVERSAL SUIT

(Continued from Page 72)

tion the later inventions of others. (This refers to the Burton process which was placed in extensive commercial operation prior to Dubbs). The defendant also avers that the specification of letters patent No. 1,123,502 is not "so full, clear and exact as to enable any person skilled in the art to which it appertains to practice and use the same, as is required by law; and that the said letters patent are therefore null and void and of no effect." Contention is also made that claims 8 to 11, inclusive, of the patent in question "fail to define any patentable process whatever, but merely recite a portion of a 'treatment' of an insufficiently identified raw material for some unexplained and unknown purpose."

Attack Reflux Patent

C. P. Dubbs' patent No. 1,392,629, filed March 19, 1919, which patent covers the return of reflux condensate to the system for further treatment, is attacked in the defendant's answer by the assertion that this alleged invention was antedated by the following patents of the United States or foreign countries:

British patent to Trumble, 15,084, of 1915. French patents: Barbet, 399,722, July 6, 1909; Leffer, 454,580, July 8, 1913; Simplex Refining Co., 480,147, June 22, 1916. German patent: Gesellschaft fur Verwertung, 284,118, issued May 5, 1915.

United States patents: William N. Sloane, 87,210, February 23, 1869; Darius Davison, 99,860, February 15, 1870; Charles Combes, 735,948, August 11, 1903; Jesse A. Dubbs, 1,123,502; January 5, 1916; Samuel Edwards, 1,170,884, February 8, 1916; William A. Hall, 1,174,909, March 14, 1916; Hermann Zerning, 1,183,266, May 16, 1916; William A. Hall, 1,194,289, August 8, 1916; Arthur D. Smith, 1,239,423, September 4, 1917; Charles Guy Lambert, 1,245,930, November 6, 1917; Carleton Ellis, 1,249,278, December 4, 1917; John Coast, 1,250,799, December 18, 1918; Milon J. Trumble, 1,281,884, October 15, 1918.

It is further alleged that Patent No. 1,392,629 was invented and became known in the United States prior to C. P. Dubbs' alleged invention to the following named persons to whom letters patent of the Unite States were granted upon applications filed in the United States prior to the date of filing the application for said alleged letters Patent 1,392,629: Joseph H. Adams, 1,320,354, October 28, 1919; Joseph H. Adams, 1,327,263, January 6, 1920; Rudolph R. Rosenbaum, 1,324,983, December 16, 1919; Friedrich Bergius, 1,342,790, June 8, 1920; Pascal M. Biddison and Hugh T. Boyd, 1,345,740, July 6, 1920; Clive M. Alexander, 1,404,725, January 31, 1922; Joseph H. Adams, 1,433,519, October 24, 1922; William M. Burton and Edgar M. Clark, 1,488,254, March 13, 1923; Ralph C. Holmes, Fred T. Manley and Otto Behimer, 1,585,496, May 18, 1926.

A categorical denial of all other charges pertaining to C. P. Dubbs' patent 1,392,629 constitutes, for the most part, the answer of the Standard of Indiana in regard to this patent, although application by Holmes Manley and Behimer and by Walter Cross, claimed to cover the same idea, are mentioned and emphasized as antedating Dubbs' application for patent.

Patent No. 1,440,772

Dubbs' patent No. 1,440,772, filed November 27, 1916, involves the passing of the heated oil through a series of heated vaporizing chambers. In its answer the defendant avers that the claims of this patent are void of novelty because of the following issued patents of the United States or foreign countries: United States patents: Abraham Quinn, No. 36,481, September 16, 1862; Tait Reissue, No. 4,366, May 2, 1871; Norman M. Henderson, No. 340,878, April 27, 1886; Hamlin, No. 411,809, October 1, 1889; John Laing, No. 488,767, December 27, 1892; Odilon Perrier, No. 544,516, August 13, 1895; Penniman, No. 766,841, August 9, 1904; Mose Wilbuschewitsch, No. 1,024,758, April 30, 1912; Mose Wilbuschewitsch, No. 1,079,278, November 18, 1913; Raymond F. Bacon, Benjamin T. Brooks and Clinton W. Clark, No. 1,131,309, March 9, 1915; Samuel H. Edwards, No. 1,170,884, February 8, 1916; Altis Hopkins, No. 1,199,463, September 26, 1916; Chauncey Forward, No. 1,202,823, October 31, 1916.

British patents: Young, 6,094, of 1884; Laing, 4,120, of 1890; Laing, 23,446, of 1911; Von Groeling, 10,213, of 1913.

German patent: Laing, 260,858, June 10, 1913.

Russian patent: Laing, (5,242), 345, of December, 1892, O. S.

Patent No. 1,440,772

It is claimed by the defendant that Patent 1,440,772, "was invented and became known in the United States, prior to the alleged invention thereof by the said Carbon P. Dubbs, to the persons named hereinafter; and that the following named letters patent of the United States, each of them disclosing and describing said inventions, were granted to said persons upon applications filed in the United States Patent Office prior to date of the filing of the application for said alleged letters patent": Joseph H. Adams, 1,320,354, October 28, 1919; Joseph H. Adams, 1,455,377, May 15, 1923; Joshua S. Cosden and John W. Coast, Jr., 1,261,215, April 2, 1918; Roy H. Brownlee, 1,325,927, December 23, 1919.

Concerning this particular patent (No. 1,440,772), the answer thereafter advances routine arguments as to why said letters patent is not infringed upon by any apparatus or device used by the defendant, but does maintain that the invention was the idea of others, particularly Ralph C. Holmes, Frederick T. Manley and Otto Behimer.

Controlled Dephlegmation

Letters Patent 1,484,445, filed November 18, 1914, and issued to Carbon P. Dubbs, involves a controlled dephlegmation of the vapors during pressure distillation. The defendant avers that the claims of this patent are not new because they are antedated by the following patents of the United States or foreign countries:

United States patents: Atwood, No. 28,448, May 29, 1860; Fales, No. 52,151, January 23, 1866; Tait, No. 96,997, November 16, 1869; Atwood, No. 226,151, April 6, 1880; Frasch, No. 231,420, August 24, 1880; Marrin, No. 243,930, July 5, 1881; Bicknell, No. 313,979, March 17, 1885; Krieser, No. 384,768, June 19, 1888; Laing, No. 488,767, December 27, 1892; Cheseborough, No. 524,704, August 21, 1894; Barbet, No. 836,732, November 11, 1906; Lang, No. 954,575, April 12, 1910; Burton, No. 1,049,667, January 7, 1913; Forward, No. 1,088,693, March 3, 1914; Dubbs, No. 1,135,506, April 13, 1915; Danckwardt,

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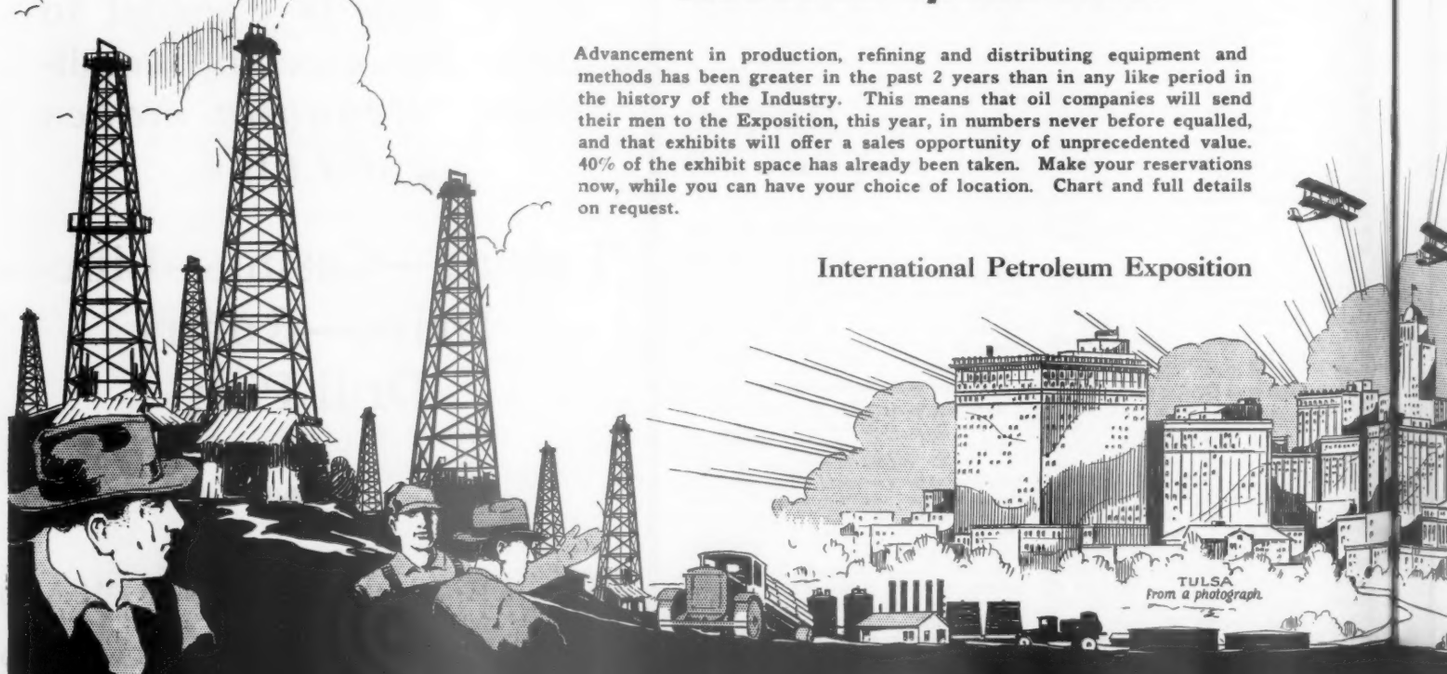

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No. 1,141,529, June 1, 1915; White, No. 1,226,041, May 15, 1917; Coast, No. 1,-250,799, December 18, 1917; Cosden, No. 1,261,215, April 2, 1918; Trumble, No. 1,281,884, October 15, 1918; Mersereau, No. 1,282,906, October 29, 1918; Trumble, No. 1,304,125, May 20, 1919; Ruff, No. 1,319,420, October 21, 1919; Adams, No. 1,320,354, October 28, 1919; Rosenbaum, No. 1,324,983, December 16, 1919; Adams, No. 1,327,263, January 6, 1920; Ellis, No. 1,396,999, November 15, 1921; Cummings Cherry, No. 15,642, September 2, 1856; Cyrus N. Warren, No. 47,-234, July 11, 1865; A. Kreusler, No. 50,368, October 10, 1865; Adolph Millochau, No. 53,167, March 13, 1866; Frederick Measy, No. 112,467, March 7, 1871; Samuel Van Syckle, No. 143,945, October 21, 1873; J. M. Krieser, No. 384,-768, June 19, 1888; Brown, No. 510,672, December 12, 1893; Herman Frasch, No. 845,735, February 26, 1907; Victor Huglo, No. 953,952, April 5, 1910; Harold P. Hird, No. 1,041,082, October 15, 1912; William H. Blauvelt, No. 1,053,349, February 18, 1913; John W. Van Dyke and William N. Irish, No. 1,073,548, September 16, 1913; same inventors, No. 1,095,-438, May 5, 1914; John B. Moore, No. 1,130,318, March 25, 1915; Samuel H. Edwards, No. 1,170,884; February 8, 1916; Altis S. Hopkins, No. 1,199,463, September 26, 1916; Altis S. Hopkins, No. 1,199,464, September 26, 1916; Arthur H. Whitelaw, No. 1,237,848, August 21, 1917; Albrecht F. G. T. J. Von Groeling, No. 1,295,088, February 18, 1919; Victor L. Emerson, No. 1,367,806, February 8, 1921; Victor L. Emerson, No. 1,367,807, February 8, 1921.

British patents: Newton, No. 616, of 1886; Hlawaty, No. 2,242, of 1890; Laing, No. 4,120, of 1911; Gottlob, No. 18,431, of 1911; Laing, No. 23,446, of 1911; Leffer, No. 19,051, of 1912; Snelling, No. 18,419, of 1914; Albrecht Von Groeling, No. 16,713, of 1914; Albrecht Von Groeling, No. 10,213, of 1913; Lewis, No. 12,188, of 1915; Deakin, No. 108,-496, accepted August 16, 1917; Dampierre, No. 109,796, accepted August 15, 1918; Illing, No. 163,363, accepted May 18, 1921.

French patents: Bresson, No. 108,214, May 29, 1875; Huglo, No. 356,152, November 22, 1905; Compagnie Industrielle des Petroles, published January 12, 1916; Dampierre, No. 478,831, published January 12, 1916; addition to said Dampierre, French patent, No. 20,331, published August 1, 1917; addition to said Dampierre French patent, No. 20,-360, published November 28, 1917; Snelling, No. 480,899, published October 4, 1917.

German patents: Von Groeling, No. 98,928, issued September 2, 1898; Goldstern, No. 151,415, issued May 27, 1904; Huglo, No. 187,694, issued August 1, 1907.

Swiss patent: Societe d 'Etudes Chimique, No. 79,336, published August 1, 1919.

Russian patents: Kvitka, No. 21,963, of June 30, 1912 (O. S.); Intchick, No. 4,967, of April 24, 1892 (O. S.); Schuchow & Intchick, No. 227, of December 31, 1888 (O. S.).

Hungarian patent: Groeling and Estlander, No. 10,243, of January 5, 1898.

Patent No. 1,449,452

Wirt D. Rial, No. 1,390,386, September 13, 1921, and Horace B. Setzler, No. 1,449,452, March 27, 1923, are the persons and inventors of letters patents, mentioned above, to whom the claims of letters patent No. 1,484,445 were said by the defendant to have been known prior to the alleged invention by Dubbs; and, in fact, letters patent to these men were granted upon applications filed in the United States prior to the date of filing by Dubbs of his application for said alleged letters patent.

The following publications are given as references in which it is averred that the claims of Dubbs' alleged invention were fully described prior to his application for said letters patent (No. 1,484,-445): Wagner's Jahresbericht uber Chemischer Technologie, published in Germany in 1898, pages 19-20; a description of Von Groeling and Estlander's device. Berichte der deutschen Chemischer Gesellschaft, published in Germany in 1897, pages 2,911-20, an article by Engler and Jezorianski entitled "Zersetzung Hochsiedender Oele."

Coke Patent

A coke-like carbonaceous fuel produced by cracking is the essential feature of letters patent 1,517,830, filed November 1, 1920, and issued to Gustav Egloff and Harry P. Benner.

The following United States and foreign patents are given in the defendant's answer as antedating the alleged invention of Egloff and Benner:

United States patents: Salisbury, No. 203,199, April 30, 1878; William M. Burton, No. 1,105,961, August 4, 1914; Edgar M. Clark, No. 1,119,496, December 1, 1914; Robert E. Humphreys, No. 1,122,002, December 22, 1914; William A. Hall, No. 1,175,909, March 14, 1916; Arthur F. L. Bell, No. 1,231,965, July 3, 1917; John W. Coast, Jr., No. 1,252,-401, January 8, 1918; John W. Coast, Jr., No. 1,252,999, January 8, 1918; John W. Coast, Jr., No. 1,258,191, March 5, 1918; Milon J. Trumble, No. 1,281,-884, October 15, 1918; Milon J. Trumble, No. 1,348,265, August 3, 1920; Ralph A. Lee, No. 1,283,229, October 29, 1918; Nelson W. Thompson, No. 1,298,602, March 25, 1919.

British patents: Young, No. 3,345, of 1865; Young, No. 1,697, of 1886; Weiser, No. 14,251, of 1909; Snelling, No. 18,-419, of 1914; Lewis, No. 7,535, of 1915; Dehn, No. 17,822, of 1915; White, No. 128,806, accepted July 3, 1919.

French patents: Barbet, No. 322,265, published January 31, 1923; Steaua Romana Petroleum Gesellschaft, No. 462,073, published January 19, 1914; Lewis, No. 481,771, published January 16, 1917.

German patents: A. Riebeck'sche Montanwerke, No. 37,728, issued December 17, 1896; Zeller and Gmelin, No. 303,-235, issued August 2, 1925.

United States patents: Luther Atwood, No. 28,448, May 29, 1860; John L. Stewart, No. 162,698, May 4, 1875; Alexander Nikiforoff, No. 755,309, March 22, 1904; Ezra S. Hoyt, No. 1,017,214, February 13, 1912; Alexander Dean, No. 1,053,282, February 18, 1913; John W. Van Dyke and William M. Irish, No. 1,073,548, September 16, 1913; Luke Mooney, No. 1,174,888, March 7, 1916; Ralph A. Waxler and Eugene Sapp, No. 1,200,281, October 3, 1916; Byron E. Eldred and Gail Mersereau, No. 1,235,-777, August 7, 1917.

British patents: Dorsett and Blythe, No. 203, of 1859; Newton, No. 1,207, of 1860; Oppenheimer and Kent, No. 22,-319, of 1905; Nomi, No. 114,617, accepted November 6, 1919.

French patents: Kornfeld, No. 328,-651, published October 21, 1903; Gane, No. 502,409, published May 12, 1920.

Patent No. 1,517,830

The claims of prior art in regard to Patent No. 1,517,830 are based on following patents: Cornelius S. Davis, No. 1,369,787, March 1, 1921; John W. Coast, Jr., No. 1,379,333, May 24, 1921; Konosuke Nomi, No. 1,386,945, August 9, 1921; Carbon P. Dubbs, No. 1,392,629, November 4, 1919; Horace P. Chamberlain, No. 1,400,419, December 13, 1921; Ulysses S. Jenkins, No. 1,440,996, January 2, 1922; Charles J. Greenstreet, No. 1,470,359, October 9, 1923; John L. Gray, No. 1,474,147, November 13, 1923; Carbon P. Dubbs, No. 1,543,831, June 30, 1925.

It is also stated in the answer that the claims of letters patent No. 1,517,-830 was fully described in several publications before Egloff and Benner invented same.

Previous Practice

The Standard Oil Co.'s answer further goes on to state in reply to the charges of infringing this particular Egloff and Benner patent that "the alleged invention of said letters patent No. 1,517,830, and all material parts thereof, by the said Gustav Egloff and Harry P. Benner, were publicly practiced and known and used at the places hereinafter set forth, by the parties designated, and by others not now known to the defendant, . . .":

1. Standard Oil Co. of Indiana at Whiting, Ind.; Casper, Wyo.; Wood

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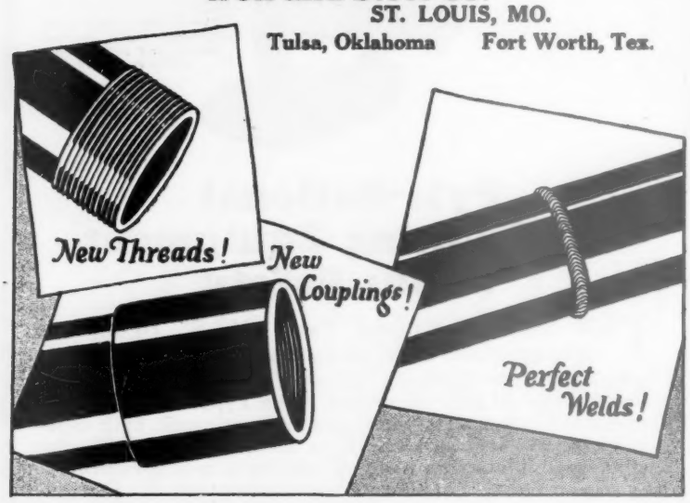

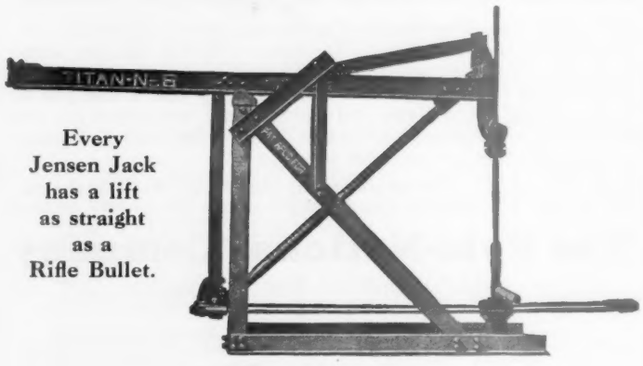

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River, Ill., and Sugar Creek Mo. 2. Standard Oil Co. of New Jersey at Bayonne, N. J., and Bayway, N. J. 3. Standard Oil Co. of New York at Providence, R. I., and Buffalo, N. Y. 4. Standard Oil Co. of Louisiana at Baton Rouge, La. 5. Carbon P. Dubbs at Wilmette, Ill., and Independence, Kans. 6. Walter M. Cross at Rosedale and Kansas City, Mo. 7. The Texas Company at Port Arthur, Tex., and Raymond F. Bacon at Pittsburgh, Pa.;

and, also, that "the product described and claimed as the alleged invention of said letters patent No. 1,517,830 does not in any substantial or appreciable way distinguish or differentiate from ordinary petroleum coke produced for many years prior to the alleged invention by said Egloff and Benner by the atmospheric pressure coking or cracking of petroleum oil, and the residues thereof, and defendant therefore avers that the said alleged invention was known and used generally by oil refiners more than two years prior to the date of the alleged application for forsaid letters patent and prior to the alleged invention thereof."

Additional Claims

To antedate patent Nos. 1,488,325 (overhead feed of the charging stock), 1,522,425 (split feed of the charging stock, part overhead, part direct to the heating elements), 1,525,281 (return of the reflux condensate to the system for further treatment by forced means), 1,546,634 (bubbling the vapors through oil pools in the dephlegmator with heat interchange with the charging stock), 1,550,568 (overhead feed in indirect heat conductive relation with the vapors traveling through the dephlegmator without permitting physical intermingling of the "overhead-fed" oil with those vapors to assist in condensing the insufficiently cracked vapors), 1,550,607 (a "split-feed" patent with a pump on the reflux line and includes the overhead feed of any oil according to claim 3), 1,568,400 (return of the reflux condensate to the system for further treatment either by pump or by gravity or by both)—all of which patents are assigned to the Universal Oil Products Co.—defendant cites the following patents of the United States or foreign countries:

United States patents: Cyrus N. Warren, No. 47,235, April 11, 1865; John I. Vaughan, No. 49,689, August 29, 1865; Adolph Millochau, No. 53,167, March 13, 1866; John A. Coffey, No. 60,477, December 18, 1866; Henry H. Rogers, No. 120,539, October 31, 1871; Walter E. Colwell, No. 385,504, July 3, 1888; Carl M. Pielsticker, No. 477,153, June 14, 1892; Carl L. Schalitz, No. 498,085, May 23, 1893; Charles W. Cooper, No. 482,340, September 13, 1892; Charles W. Cooper, No. 521,945, June 26, 1894; Charles W. Cooper, No. 521,974, June 26, 1894; Charles W. Cooper, No. 553,841, February 4, 1896; Emilien Rocca, No. 699,571, May 6, 1902; Walter E. Lummus, No. 731,999, June 23, 1903; Miguel Llodra, No. 858,346, June 25, 1907; Lozaburo Suzuki, No. 894,407, July 28, 1908; Milon J. Trumble, No. 996,736, July 4, 1911; Joseph M. W. Kitchen, No. 1,008,273, November 7, 1911; Harold P. Hird, No. 1,041,082, October 15, 1912; William H. Blauvelt, No. 1,053,349, February 18, 1913; Frank W. Holmes and others, No. 1,055,747, March 11, 1913; Heinrich A. Gasser, No. 1,089,581, March 10, 1914; Edgar M. Clark, No. 1,119,496, December 1, 1914; Roy C. Bardes, No. 1,120,039, December 8, 1914; Charles W. Turner, No. 1,151,422, August 24, 1915; Samuel H. Edwards, No. 1,170,884, February 8, 1916; August Krug, No. 1,179,636, April 18, 1916; Altis S. Hopkins, No. 1,199,463, September 26, 1916; Altis S. Hopkins, No. 1,199,464, September 26, 1916; Ralph A. Waxler and others, No. 1,200,281, October 3, 1916; Walter M. Cross, No. 1,203,312, October 31, 1916; Rudolph R. Rosenbaum, No. 1,222,801, April 17, 1917; Carter White, No. 1,226,041, May 15, 1917; Ulysses S. Jenkins, No. 1,226,526, May 15, 1917; Carbon P. Dubbs, No. 1,231,509, June 26, 1917; Arthur K. Whitelaw, No. 1,237,848, August 31, 1917; Arthur D. Smith, No. 1,239,423, September 4, 1917; Carleton Ellis, No. 1,249,278, December 4, 1917; Leon E. Hirt, No. 1,250,879, December 18, 1917; Josua Cosden and others, No. 1,258,196, March 5, 1918; Edward H. Wright and Edwin H. Atwood, No. 1,278,280, September 10, 1918; Roland B. Day and David T. Day, No. 1,280,179, October 1, 1918; Milon J. Trumble, No. 1,281,884, October 15, 1918; William A. Hall, No. 1,285,136, November 19, 1918; Edward W. Isom, No. 1,285,200, November 19, 1918; Layton O. Sherman, No. 1,288,711, December 24, 1918; Granville A. Humason, No. 1,291,899, January 21, 1919; Albrecht Von Groeling, No. 1,295,088, February 18, 1919; Milon J. Trumble, No. 1,304,125, May 20, 1919; Frank L. Slocum and Charles C. Stutz, No. 1,304,211, May 20, 1919; Roy H. Brownlee, No. 1,320,376, November 4, 1919; Rudolph R. Rosenbaum No. 1,324,986, December 16, 1919, Roy H. Brownlee, No. 1,325,927, December 23, 1919; Emile Barbet, No. 1,328,259, January 20, 1920; Walter Rittman, No. 1,330,008, February 3, 1920; John W. Coast, No. 1,333,964, March 16, 1920; Lorren W. McOmber, No. 1,345,452, July 6, 1920; Victor L. Emerson, No. 1,346,798, July 13, 1920; Walter Rittman, No. 1,365,604, January 11, 1921; Victor L. Emerson, No. 1,367,806, February 8, 1921; Victor L. Emerson, No. 1,367,807, February 8, 1921; Paul Danckwardt, No. 1,373,654, April 5, 1921; Edgar M. Clark, No. 1,388,514, August 23, 1913; Wirt D. Rial, No. 1,390,386, September 13, 1921; Frank B. Lewis and Thomas S. Cooke, No. 1,392,584, September 4, 1921; Carbon P. Dubbs, No. 1,392,629, September 4, 1921; Ernest V. Stone, No. 1,403,457, January 10, 1922; Ernest V. Stone, No. 1,403,458, January 10, 1922; Edgar M. Clark, No. 1,405,286, January 31, 1922; Carbon P. Dubbs, No. 1,411,961, April 4, 1922; Carleton Ellis, No. 1,415,232, May 9, 1922; John F. W. Schulze, No. 1,418,885, June 6, 1922; Russell D. George, No. 1,420,832, June 27, 1922; Ernest V. Owen, No. 1,427,626, August 29, 1922; William J. Knox, No. 1,428,641, September 12, 1922; William Muehl, No. 1,444,129, February 6, 1923; Horace B. Setzler, No. 1,449,452, March 27, 1923; John C. Black, No. 1,456,419, May 22, 1923; Carbon P. Dubbs, No. 1,488,325, March 25, 1924; Herschel G. Smith, No. 1,523,497, January 20, 1925; Carbon P. Dubbs, No. 1,522,425, January 6, 1925; Carbon P. Dubbs, No. 1,525,281, February 3, 1925.

British patents: Newton, No. 616 of 1866; Pielsticker, No. 1,706 of 1882; Still, No. 25,676 of 1901; Von Groeling, No. 10,213 of 1913; Von Groeling, No. 16,713 of 1914; Valpy and Lucas, No. 12,653 of 1914; Mitchell, No. 17,567 of 1915; Nelson, No. 116,304; George, No. 151,925, accepted December 14, 1921; Goold, No. 185,439, accepted September 11, 1912.

German patents: Von Groeling and others, No. 98,928, September 2, 1898; Porges, No. 153,422, July 23, 1904.

Austrian patents: Aisinmann, No. 59,183, May 26, 1913; Steinschneider, No. 62,710, September 2, 1898.

French patents: Lucas, No. 476,603, published August 11, 1915.

Other Devices

The defendant further states that the heat exchange devices, methods, apparatus and expedients, which the plaintiff attempted to cover by the seven letters patents under discussion at this point, are, in part, set forth in the following United States letters patents issued and owned by defendant or under which defendant is licensed: Edgar M. Clark, No. 1,388,514, August 23, 1921; Frank B. Lewis and Thomas S. Cooke, No. 1,392,584, October 4, 1921; William M. Burton and Edgar M. Clark, No. 1,448,254, March 13, 1923; Altis M. Hopkins, No. 1,119,463, September 26, 1916; Altis M. Hopkins, No. 1,119,464, September 26, 1916.

Letters patent 1,568,400, filed February 4, 1925, and issued to C. P. Dubbs, and covering the return of the reflux condensate to the system for further treatment either by gravity or by pump or by both, is attacked by the defendant on the grounds that the claims therein were already fully disclosed in United States patent 1,392,629 granted to Carbon P.

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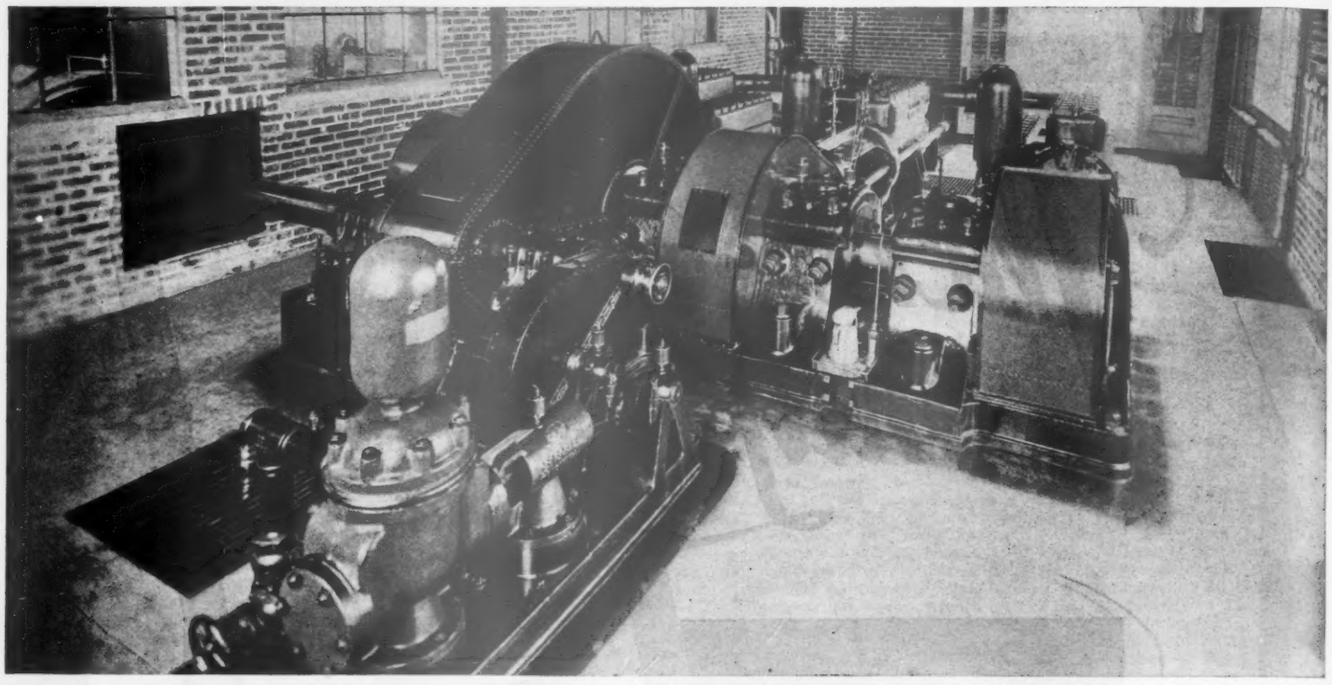

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FRED. M. PRESCOTT, President

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Dubbs on October 4, 1921. This latter patent is now in interference in the United States patent office with an application of Holmes, Manley and Behimer.

Patent No. 1,550,568

Concerning patent No. 1,550,568, filed May 12, 1920, granted to Robert T. Pollock and by him assigned to Universal Oil Products Company, the defendant avers that same is invalid because of the prior issuing of the following United States letters patents:

United States letters patent: Walter E. Holwell, No. 385,504, July 3, 1888; Emilen Rocca, No. 699,571, May 6, 1902; Walter E. Lummus, No. 731,799, June 23, 1903; Altis S. Hopkins, No. 1,199,464, September 26, 1916; Rudolph R. Rosenbaum, No. 1,222,801, April 17, 1917; Arthur K. Whitelaw, No. 1,237,848, August 21, 1917; Albrecht von Groeling, No. 1,295,088, February 18, 1919; Rudolph R. Rosenbaum, No. 1,324,983, December 16, 1919; Emile A. Barbet, No. 1,228,259, January 20, 1920; John W. Coast, Jr., No. 1,333,964, March 16, 1920.

The defendant, further answering, avers that "the said Robert T. Pollock surreptitiously and unjustly obtained said letters patent herein sued upon for that which in fact was invented by others, and particularly by Edgar M. Clark and Frank A. Howard in Elizabeth, N. J., who were using reasonable diligence in adapting, perfecting and patenting the same."

Claims Denied

The Standard Oil Co. of Indiana particularly denied that it has been infringing or now is infringing the following:

Patent No.	Claims
1,122,502	8, 9 and 11
1,392,629	1, 2, 3, 4, 5, 7, 8 and 9
1,440,772	All claims
1,484,445	All claims
1,488,325	5, 7 and 8
1,517,830	The single claim thereof
1,525,281	2, 3, 5, 7, 8, 9, 10 and 13
1,546,634	3 and 4
1,550,607	1, 2 and 3
1,568,400	All claims
1,550,568	1, 2 and 3

Defendant's Counterclaims

In its first counterclaim defendant avers that letters patent 1,392,629 (the return of the reflux condensate to the system for further treatment), granted to C. P. Dubbs, relates to matter invented by R. C. Holmes, F. T. Manley and Otto Behimer, and for which aforesaid parties applied for a patent on November 21, 1918. This application is still actively pending in the United States Patent Office and, as a matter of fact, is now in interference with Dubbs issued patent 1,392,629.

Because of the relative importance of defendant's answer as given in one particular paragraph of the counterclaim, this paragraph is quoted in detail:

"This defendant further avers that the aforesaid alleged patents Nos. 1,488,325, 1,522,425, 1,525,281, 1,546,634, 1,550,568, 1,550,607 and 1,568,400, sued upon herein by plaintiff, and each of them, purport to relate to the continuous bulk pressure distillation type of process and apparatus, said type of process and apparatus being of the same type and form as that first and originally invented and devised by said Holmes, Manley and Behimer (as aforesaid), and publicly used by the said The Texas Company in the United States prior to the respective alleged inventions of the process and apparatus to which said alleged patents relate, and prior to their respective alleged applications; avers that plaintiff, well knowing that the inventive features thereof were first and originally devised, developed, invented and perfected by and on behalf of said The Texas Company, and that The Texas Company owned and now owns the entire right, title and interest therein, and that this defendant is licensed and has other rights thereunder, did willfully, illegally and wrongfully plan and attempt to set up and appropriate to itself a color of a monopoly therein; avers that in pursuance of said wrongful and illegal plan and attempt the said plaintiff, and the patentees of said above enumerated alleged patents, did wrongfully and improperly procure the said alleged patents wherein the plaintiff and the alleged patentees thereof purported and seemed to describe, set forth, include and cover, in the respective specifications and claims thereof, the application to and use with the said continuous bulk pressure distillation type of process, and the apparatus therefor, or said well-known and long used heat exchange devices, methods and expedients, as set forth in paragraph CXXVIII of the answer above; and avers that plaintiff and the said patentees did all this, well knowing that said heat exchange devices, methods and expedients, as set forth in said alleged patents, perform, accomplish and produce only those functions or results performed, accomplished and produced in this defendant's earlier and long-established practices, uses and devices, as set forth in paragraph CXXVIII of the answer above, and no others."

Conclusion

The conclusion of Standard's first counterclaim is as follows: "This defendant prays that: (1) the said Holmes, Manley and Behimer be adjudged to be the first, original and joint inventors of the invention aforesaid; (2) that said patent 1,392,629, and each of the claims thereof, be held invalid and that said patent be declared null and void; (3) that plaintiff and plaintiff's agents and employees be enjoined from further suing or threatening to sue licensees or prospective licensees of this defendant, or others, under said patent 1,392,629, both permanently and pendente lite; (4) that plaintiff and plaintiff's agents and employees be enjoined, both permanently and pendente lite, from publishing and advertising or otherwise stating, orally or in writing, that said patent 1,392,629, or the claims thereof, cover said invention of Holmes, Manley and Behimer, or any part thereof, or said continuous bulk pressure type of process and apparatus; (5) that plaintiff answer this counterclaim (but not under oath, such answer being waived); (6) that defendant have such further relief herein as is proper; and (7) that a writ of injunction issue directed to The Universal Oil Products Co.

Infringe Standard Patents

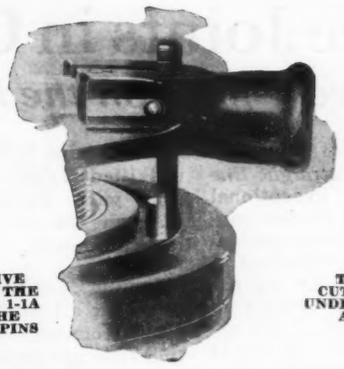
In their second counterclaim the Standard Oil Co. charges the Universal Oil Products Co. with infringing the following four patents now owned by the Standard: Robert E. Humphreys, No. 1,119,700, December 1, 1914; Edgar M. Clark, No. 1,388,514, August 23, 1921; William M. Burton and Edgar M. Clark, No. 1,448,254, March 13, 1923; Charles S. Palmer, No. 1,514,098, November 4, 1924; and defendant therefore prays that: "(1) Plaintiff and plaintiff's agents and employes be enjoined from further infringement; (2) plaintiff account for and pay to your orator plaintiff's profits and this defendant's damages and a sum in excess thereof not exceeding three times the actualy damages and profits; (3) plaintiff answer this counterclaim (but not under oath, such answer being waived); (4) this defendant have such further relief as is proper; and (5) that a writ of injunction issue directed to Universal Oil Products Co.

TRUITTSBURG GAS FIELD

TRUITTSBURG, Pa., June 18.—Within a 1-mile radius the Truittsburg gas fields are now producing 100,000,000 feet of natural gas a day, making it probably the richest gas field of its size in Pennsylvania. One of the latest completions there is also the record producer of the field, it having been drilled in by Wallace Houpt who is a stockholder in the new company known as the Anderson Oil & Gas Co. In the sixth sand at 1,600 feet an effort to measure the volume caught 40,000,000 cubic feet of the open flow of 850 pounds rock pressure. The well is in the Truittsburg cemetery.

SEEKS GAS FRANCHISE

BIG SPRINGS, Tex., June 18.—L. Whitaker, representing the Panhandle Gas Co. of Amarillo, is in Big Spring negotiating with City Manager Montan with the view of obtaining a gas franchise. It is likely that the franchise will be granted, according to Manager Montan. Gas from the Chalk oil field will be purchased by his company if it builds to Big Spring, Mr. Whitaker said.



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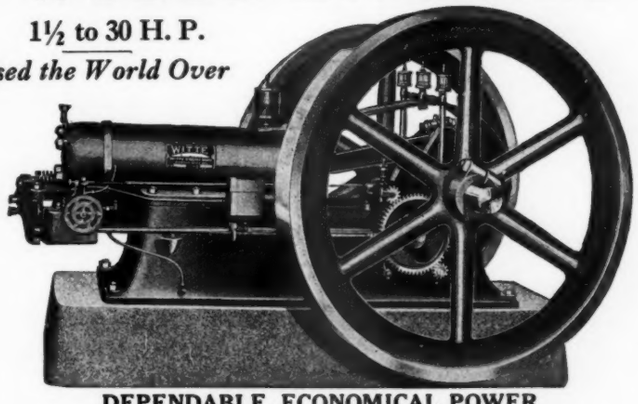

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REGISTRATION AT COLORADO SPRINGS CONFERENCE ON STANDARDIZATION

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C. R. Barton, Standard Seamless Tube Co., Ambridge, Pa.; John Baxter, Republic Iron & Steel Co., Youngstown, Ohio; E. L. Bell, Shaffer Oil & Refining Co., Drumright, Okla.; J. W. Berry, Aguila, Puerto Mexico, Mexico; L. G. E. Bignell, Parkersburg Rig & Reel Co., Tulsa, Okla.; H. W. Bishop, Jr., Harrisburg Pipe & Pipe Bending Co., Harrisburg, Pa.; C. H. Black, Tubbs Cordage Co., San Francisco, Calif.; L. J. Black, Beaumont, Tex.; E. P. Bly, Standard Oil Co. of California, San Francisco, Calif.; William R. Boyd, Jr., American Petroleum Institute, New York; F. R. Braman, National Tube Co., 1315 North Elwood, Tulsa, Okla.; John K. Broderick, Broderick & Bascom Rope Co., St. Louis, Mo.; Douglas R. Brown, The O. C. S. Manufacturing Co., Coffeyville, Kans.; N. G. Bruce, Rubber Association of America, 250 West Fifty-seventh Street, New York City; M. G. Brennan, Stearns Roger Manufacturing Co., Denver, Colo.; L. P. Burgess, D. & B. Pump & Supply Co., Los Angeles, Calif.; Bryan R. Burnett, Fort Worth, Tex.; Robert Burnett, Humble Oil & Refining Co., 212 Truxillo, Houston, Tex.; L. F. Burnham, R. D. Nuttall Co., Pittsburgh, Pa.; H. W. Bearce, Bureau of Standards, Washington, D. C.; H. T. Burnish, A. O. Smith Corp., Milwaukee, Wis.; L. T. Burns, Wichita Falls, Tex.; A. E. Butts, A. O. Smith Corp., Milwaukee, Wis.; M. H. Broderick, The Broderick Co., Muncie, Ind.

Arch F. Campbell, Fenwick-Reddaway Manufacturing Co., Newark, N. J.; H. V. Carter, Braden Steel & Winch Co., Tulsa, Okla.; Frank L. Chase, Lone Star Gas Co., Dallas, Texas.; E. W. Clark, American Petroleum Institute, Los Angeles, Calif.; H. D. Collin, Gypsy Oil Co., Tulsa, Okla.; E. M. Converse, Dearborn Chemical Co., 310 South Michigan Avenue, Chicago, Ill.; V. A. Cosler, Rubber Association of America, 250 West Fifty-seventh Street, New York City; T. B. Cranfill, Cranfill Brothers Oil Co., Dallas, Tex.; Welton J. Crook, B. & B. Pump & Supply Co., Stanford University, Calif.; John J. Crawley, Riter-Conley Co., Pittsburgh, Pa.; C. F. Cruciger, Spang-Chalfant, Pittsburgh, Pa.; James E. Cunningham, Wheeling Steel Corp., Wheeling, W. Va.; W. T. Cushing, Dearborn Chemical Co., Chicago, Ill.; Newton Chapin, Lee C. Moore & Co., Pittsburgh, Pa.; W. L. Connelly, Mammoth Oil Co., Casper, Wyo.

John J. Darby, The Burt Corp., Tulsa, Okla.; Thomas D. Davies, National Tube Co., Pittsburgh, Pa.; Mark W. Daw, Shell Co. of California, 200 Bush Street, San Francisco, Calif.; A. J. Day, Braden Steel & Winch Co., Tulsa, Okla.; F. E. De Coster, Black, Sivalls & Bryson, Inc., Amarillo, Tex.; M. J. Delaney, 5411 Swiss Avenue, Dallas, Tex.; J. E. DeLong, Waukesha Motor Co., Waukesha, Wis.; Harry Denni, Kansas City Structural Steel Co., Kansas City, Kans.; Donald E. Dickey, General Petroleum Corp. of California, Los Angeles, Calif.; Hugh Donovan, Jr., Donovan Boiler Works, Parkersburg, W. Va.; Ray L. Dudley, Oil Weekly, Houston, Tex.; H. C. Davis, Gypsy Oil Co., Tulsa, Okla.; C. L. Dean, Stearns Roger Manufacturing Co., Denver, Colo.

Karl L. Elliott, Acme Fishing Tool Co., Parkersburg, W. Va.; C. A. Ellis, Standard Oil Co., 26 Broadway, New York; Paul Endacott, Phillips Petroleum Co., Bartlesville, Okla.; M. G. Ensinger, American Cable Co., 15 West First Street, Tulsa, Okla.; W. S. Evans, Lucey Products Corp., New York City.

D. S. Faulkner, Union Tool Co., Torrance, Calif.; R. N. Fesinger, Gypsy Oil Co., Tulsa, Okla.; Charles Fitzgerald, Pure Oil Pipe Line Co. of Texas, Dallas, Tex.; H. W. Fletcher, Hughes Tool Co., Houston, Tex.; Charles U. Flint, American Steel Derrick Co., Tulsa, Okla.; W. W. Fondren, Humble Oil & Refining Co., Houston, Tex.; J. S. Freeman, Skelly Oil Co., Tulsa, Okla.; F. A. Funk, American Steel Derrick Co., Tulsa, Okla.

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George H. Jaques, Midwest Refining Co., Casper, Wyo.; William Jardh, Axelson Machine Co.; P. C. Jones, The S. M. Jones Co., Toledo, Ohio; J. W. Jordan, Sinclair-Wyoming Oil Co., Casper, Wyo.

Lester Keim, Oil Well Supply Co., Los Angeles, Calif.; Ernest P. Kipp, Hazard Manufacturing Co., Denver, Colo.; H. O. Koopman, Phillips Petroleum Co., Bartlesville, Okla.; A. D. Kunze, Rubber Association of America, New York City; C. R. Krause, Lee C. Moore & Co., Tulsa, Okla.

C. T. Langford, Marland Oil Co., Ponca City, Okla.; W. H. Laury, Axelson Machine Co., Los Angeles, Calif.; W. W. Leck, Scullin Steel Co., St. Louis, Mo.; Harry J. Leschen, A. Leschen & Sons Rope Co., St. Louis, Mo.; Reese Llewellyn, Llewellyn Iron Works, Los Angeles, Calif.; J. F. Lucey, Lucey Petroleum Co., Dallas, Tex.; J. A. Lupfer, Worthington Pump & Machine Corp., New York City; William H. Little, National Petroleum News, Tulsa, Okla.

Lee V. McAnelly, Ransdale-Reddaway B. & H. Co., Dallas, Tex.; G. McConnell, Roxana Petroleum Corp., Tulsa, Okla.; J. D. McEwen, Lee C. Moore & Co., Pittsburgh, Pa.; F. Ray McGrew, Standard Pipe Line Co., Inc., Shreveport, La.; E. J. McKee, Phillips Petroleum Co., Bartlesville, Okla.

Harry J. Mack, Columbia Rope Co., Independence, Kans.; Frank M. Maban, National Turnbuckle Derrick Co., Tulsa, Okla.; C. T. Mapes, Oil Well Supply Co., Pittsburgh, Pa.; Charles E. Markey, Link Belt Co., Indianapolis, Ind.; W. G. Marks, John A. Roebling Sons Co., Los Angeles, Calif.; J. N. Martin, J. P. Rati-

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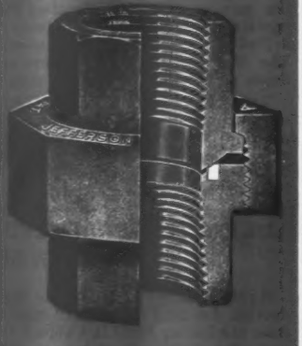

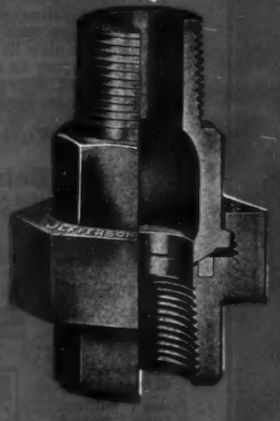

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Thomas Yonley, Fairbanks-Morse & Co., Kansas City, Mo.; C. A. Young, A. P. I. Standardization Committee, Dallas, Tex.

Forest Oil Completes 355 Wells in 303 Days In Old Bradford Field

BRADFORD, Pa., June 18.—What is believed to be a record accomplishment in oil development on one property is revealed by figures compiled here today.

The Forest Oil Corp. in 303 days has completed 355 wells on the former J. T. Jones property. The first string was started on the property August 12, 1926, following its purchase by Forest Oil.

Were Water Wells

Of the 355 completions, 143 were water wells drilled to the bottom of the Bradford sand for the purpose of "flooding" the sand to force out the oil in the peculiar way in which the Bradford Field is operated. The other 213 wells were drilled for oil and none of these was dry. The Forest Oil Co.'s program on the Jones properties calls for 133 more wells.

Production of the Bradford Field is now estimated at 14,000 bbls. daily compared with 5,000 bbls. daily a few years ago. The Bolivar-Richburg district in New York, which is also a "flooded" field is producing over 3,500 bbls. a day.

LULING HAS PRODUCED OVER 31,427,000 BBLS.

SAN ANTONIO, Tex., June 18.—Production for May of 540,113 bbls. of oil from the Luling Field in Caldwell County made the total production from that field to May 31, covering a period of four and one-half years, 31,427,399 bbls., according to statistics compiled by a local oil company. Production from the field has followed nearly a level line on the production chart since the peak was reached a year and a half ago.

Geologists, with the knowledge they had of formations at the time, said the only formation at Luling was the Edwards, a lime formation never known to carry anything but water. Against advice of geologists, the United North & South drilled and got oil. A freak of nature faulted the Edwards lime against some shales from which the oil is coming.

SHALE PLANT IDLE

The Bureau of Mines will continue after July 1 in an idle condition its oil shale plant in Colorado with the exception of renewing its experiments after the next session of Congress convenes. Its prior appropriation for operating the plant will expire June 30. For the year beginning July 1, it has only an appropriation of $5,000 for maintenance of the plant. A larger appropriation for operation of the plant during the year beginning July 1, failed of passage when Congress at the last session adjourned without approving the deficiency bill. This deficiency measure is expected to be passed shortly after the next session meets and if it contains the oil shale fund the bureau will be prepared to resume operations at the Colorado plant.

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Make deck and eaves vapor-tight and you eliminate wind drift.

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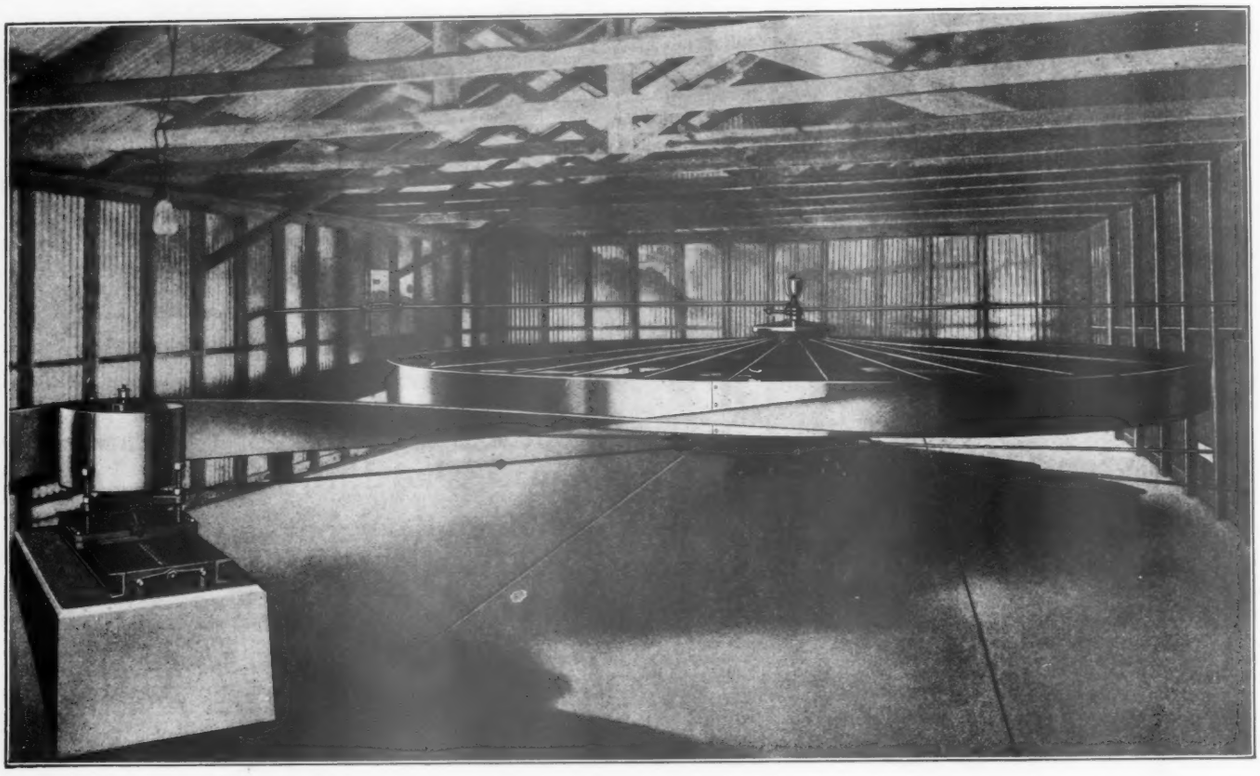

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REID OIL FIELD MACHINERY

EASTERN FIELDS

(Continued from Page 62)

Chemical Oil Co. has a rig up on the Bennett-Saunders farm. In the same district, McIntosh & Miller have made a location on the S. B. Minney farm.

Southeast Ohio

In the shallow teritory in Southeast Ohio, S. H. Boyce & Co. have completed and shot in the Berea grit No. 12 on the Emily Edmiston farm in Section 21, Knox Township, Jefferson County, good for 6 bbls. a day. The total depth is 1,420 feet. In Section 13, Washington Township, Monroe County, George E. Weckbacher and others have the rig completed for a second test on the B. F. Rose heirs' farm.

In Athens County, the Glendale Oil Co. has completed a duster on the Lick Run Coal Co.'s property. Dailey & Son are drilling a test on the John Sheridan farm. In Section 32, Athens Township, the Wehrle Stove Co. has a duster in the Clinton sand at a test on the Peter L. Fagan farm. In Alexander Township, the Biddle Oil & Gas Co.'s No. 8 on the John F. Biddle heirs' farm is good for 3 bbls. a day in the Berea grit.

In Section 9, Brookfield Township, Noble County, the Ohio Fuel Supply Co. is fishing at a test on the Riley Harding farm. In Section 24, Center Township, J. H. Yerain & Co. are drilling on the Noah B. Pitts farm. In Section 9, Enoch Township, Roy Harper is drilling a second test on the Francis Schafer farm. In Section 4, Jefferson Township, Joseph Saling & Co. are drilling on the Caroline Brotton farm. In Sutton Township, Meigs County, Creel Brothers' second test on the George Karr farm is a light pumper.

Washington County

In Section 17, Aurelius Township, Washington County, L. H. Phillips & Co.'s first and second tests on the C. C. Wharton farm are both light pumpers in the Buell Run sand. In Washington Township, Washington County, the First National Bank of Marietta has a duster in the Mitchell sand at No. 37 on the Herlon Mendenhall farm. In Newport Township, John Dotson and others are drilling a test on the Andrew Friedel farm.

In the northeast quarter of Section 30, Ward Township, Hocking County, Ohio, A. H. Squires & Co. have completed No. 16 on the Cobb-Bradley farm. It produced 25 bbls. the first 24 hours after shot. In the southeast quarter of Section 18, Coal Township, same county, the Chartiers Oil Co. completed No. 204 on the Hocking Valley Products property and showing very light in the Clinton sand.

In the Berea grit development in Section 32, Knox Township, Columbia County, George Kiel has completed in the Berea grit No. 11 on the F. S. Pieren 108 acres and it is a 2-bbl. pumper.

Good Gasser

On the Ohio side in the northwest quarter of Section 12, Switzerland Township, Monroe County, the American Natural Gas Co. has drilled a test on the J. K. Nuchel farm into the Keener sand and developed a good gas pressure. After flowing open for two days it was tested and showed 5,000,000 feet a day.

Medina County

In the northwest quarter of Lot 48, Moundsville Township, Medina County, J. A. Brady has completed at an average depth of 425 feet, Nos. 1, 2 and 3 on the Mrs. Belle Graber farm, each good for 1 bbl. a day. In Section 13, Reading Township, Perry County, the Wiser Oil Co. has started to drill a test on the Samuel Hover farm. In Section 24, same Township, and county, the Hutchinson Oil & Gas Co. has started to drill a second test on the W. W. Hutchinson farm.

Southwest Pennsylvania

On Ruffs Creek, Washington Township, Greene County, the Carnegie Natural Gas Co. has completed in the fifth sand a test on the J. R. Johns farm, a light gasser. On McRay Run, Franklin Township, the Peoples Natural Gas Co. completed a test on the Jesse Adams farm. It is dry in all sands, including the Bayard.

Greene County has nearly all of the new work under way and starting. The Carnegie Natural Gas Co. is the most active in development work. In Perry Township, this company has started to drill a test on the S. A. Lemley farm and drilling on the A. H. Johns and M. L. Jones farms. In Whitley Township, the same company is drilling on the William Fox and E. J. Morris farms. In Franklin Township, the same company is drilling on the E. Stephens farm and in Morris Township has the rig completed for No. 6 on the J. S. Rutan farm.

In Dunkard Township, the Peoples Natural Gas Co. is drilling two tests on the R. Lynch farm. In Whitley Township, the same company is drilling on the Nicholas Livengood farm. In Dunkard and Greene Townships, the Greensboro Gas Co. is drilling on the R. Lynch and William Turner farms.

In Springhill Township, Greene County, the Manufacturers Light & Heat Co.'s test on the L. H. Ernest farm is a gasser in the Big Injun sand. In Richhill Township, the Carnegie Gas Co. has a gasser in the Gordon sand at No. 7 on the J. K. Loughbridge farm. In the same township, the same company's test on the John J. Cooper farm is a gasser in the Big Injun sand. In Morris Township, the Consumers Fuel Co.'s No. 4 on the James S. Rutan farm has declined to 100 bbls. a day, the lowest production since it was shot two weeks ago.

Two 25-Bbl. Wells

Two oil strikes were reported in the Van Buren Field, Washington County, The Manufacturers' Light & Heat Co. drilled in one well on the Miller Day farm and the Carnegie Gas Co. drilled in the other on the Howard Taylor tract. Each produces about 25 bbls. daily in the fifth sand.

Fatal Gas Explosion

A fatal gas explosion, in which one man lost his life and three others were badly injured, occurred at No. 4 well on the Alfred Rutan farm in Morris Township, Greene County, Pennsylvania. The four men had gone to an adjacent well for some fishing tools when the gas at the well exploded from the gas engine. William Rexford Wells was the most seriously injured and died from his injuries. The other three men suffered terrible burns and lacerations, but are expected to recover. The dead man was aged 18 and a resident of Greensburg.

MICHIGAN FIELDS

(Continued from Page 62)

and embracing about 30,000 acres of land. The interested companies are the Wittmer Oil Co. and the Morse Oil & Gas Co. The leases have been filed in Kalamo, Bellevue, Carmel, Eaton and Walton Townships. Two or three test wells will be drilled within the next month in the county, according to assurances given to the Eaton land owners.

"Twenty-seven thousand acres of Macomb County farms, located northeast of Mr. Clemens, have been leased by a group of Canadian operators for the purpose of drilling for oil. An actual start of operations has been made by the promoters, but when a level of 577 feet was reached a halt was necessitated because of a lack of funds to continue drilling operations. Promoters of the project are seeking additional funds and hope to renew operations shortly.

"G. P. Phillips of Bellevue has leased 10,000 acres of land in the vicinity of St. Johns for the American Natural Gas Co. of Pittsburgh, which company will send its experts to the State to determine a location for the sinking of a test well. Several Saginaw parties have filed leases with the register of deeds in Isabelle County for the drilling of wells in Chippewa and Denver Townships. A contract has also been made with an oil drilling firm of Chicago to drill a test well on the 19,000-acre Eggleston estate, located 12 miles southwest of West Branch in Roscommon County.

"Prospectors say there are strong indications of oil deposits in the strip of land extending from Grayling southeast to Tawas. Arrangements are being made

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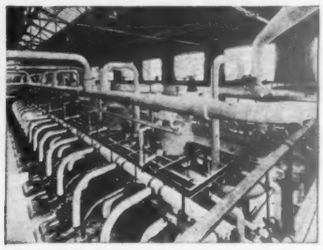

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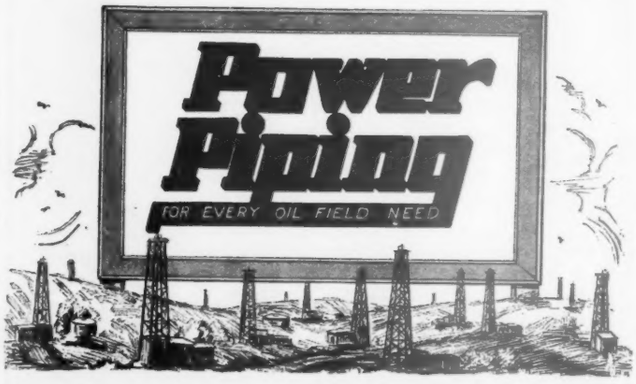

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to drill for oil in Crawford and Iosco Counties. A test well is being sunk at East Tawas.

"Monroe and Lenawee Counties have long been recognized as prospective fields for the production of oil on a small scale. Several wells are being operated in this district, with outputs ranging from 5 to 7 bbls. a day in wells sunk in Deerfield and Dundee Townships. The Deerfield Oil Producing Co. has recently been organized and has leased 910 acres of land surrounding the present scene of operations. Other interests have leases on over 500 acres in Deerfield and Ridgeway Townships. It is understood that over 2,000 acres of land in Exter and London Townships, Monroe County, have been leased by Indiana parties to drill for oil.

"The southwestern part of the State has several prospective developments. An attempt will be made by the Michigan-Ohio Co. of Toledo to find oil near the village of Covert in the northwest corner of Van Buren County. Three thousand acres have been leased and a well is to be sunk shortly, according to plans. The W. E. R. T. Oil & Gas Co. has been incorporated at Paw Paw to drill for oil in Decatur Township. A test well will be sunk by Canton, Ohio, parties southwest of Allegan.

"Battle Creek representatives of the Lemunyon Brothers of Saginaw are leasing 10,000 acres of land north and east of Battle Creek to be operated upon this year. Other experiments will be made north of Dowagiac in Cass County."

Saginaw Completions

The Ohio Oil Co.'s No. 5 on the Mershon-Eddy-Parker property, in the Saginaw Field, was drilled to the Saginaw sand, being dry in the upper Berea, getting the lower sand at 2,287 feet, shooting with 60 quarts, and after shot swabbed 15 bbls. No. 6 on the same property found top of Berea at 1,808 feet and went about 20 feet in that formation and after being shot shows for 30 bbls. initial.

Sun Oil Co.'s No. 2 Rabe farm, Section 11, Saginaw Township, was found dry in the Saginaw sand and plugged back to the Berea sand and shot, and swabbed 30 bbls. Same company's No. 3 Stelzreide farm, same section, topped Berea at 1,833 feet, went 17 feet in the sand and was shot with 60 quarts, showing for 25 bbls.

Fordney Petroleum Co.'s No. 1 on the Herman Knight property on the Carrollton Road, topped the Berea at 1,809 feet and went 21 feet in the sand, showing for 10 bbls.

On the east bank of the river, Charles A. Schwartz's No. 1 on the Schwartz Brothers property north of the Johnson Street bridge on North Water Street, found top of Berea at 1,809 feet and went around 20 feet in sand and was shot with 60 quarts, showing for 25 bbls. initial.

Saginaw Prospecting Co.'s No. 6 on the Deindorfer Woods, city-owned property, reached the Berea at 1,814 feet and drilled 19 feet of sand, estimated at 20 bbls. Same company's No. 1 on the Likam land on Shattuck Road, found top of Berea at 1,825 feet and drilled 19 feet in the sand, shooting with 80 quarts. Reported at 20 bbls. initial.

James Cooper's new well at the foot of State Street, which hit the Berea sand at 1,806 feet and went 20 feet in, adding a 60-quart shot, brought forth from swabbing a short time 26 bbls. of crude.

Atlas Oil Co.'s No. 1 on Davenport Street, west of the Michigan Central tracks, is estimated at 20 bbls. Top of Berea was at 1,802 feet, drilling 19 feet of sand and shooting with 60 quarts.

Flint Oil & Gas Co.'s No. 1 on the Knuttell-Bennett property at the southeast corner of Fayette and State Streets, topped the Berea at 1,797 feet, went approximately 20 feet in sand, getting what is estimated a 20-bbl. well.

Myron E. Lee's No. 3 on the Brechtelsbauer farm, near Carrollton Village, close to Shattuck Road and Michigan Avenue, is estimated at 20 bbls. initial. Sand was struck at 1,812½ feet and sent 12½ feet in the sand and stirred up with an 80-quart shot.

Field Notes

Melvin W. Hagan, who broke his leg on May 16, in the Saginaw Field, is out on crutches. He is of the well-known contracting firm of Hagan & Hagan.

The Ohio Oil Co. has its No. 1 on the Frantz property on the Shattuck Road, west of the Bay Road, in and shot. Its value as a producer is not yet determined, but it will make a producer.

A further advance of oil prospecting to the east of production is seen when William M. Bradley & Son announced a well would be drilled on the Clarence B. Allen property on the northwest corner of Baum and Johnson Streets.

Entry of the Pure Oil Co. into Michigan oil operations was forecast with the announcement that the State Conservation Commission has granted the company optional leases on 4,520 acres of land lying largely in Saginaw, Huron and Midland Counties. The Pure Oil Co. has had geologists in the Saginaw Field and other parts of Michigan for some time, but up to the present has not been operating in the field, though it is understood to have taken some leases in various localities.

A Dundee sand test will be drilled by the Flint Oil & Gas Co. on the Mrs. Maude Grube property at the northwest corner of Genesee and Michigan Avenues.

CENTRAL WEST FIELDS

(Continued from Page 58)

No. 1 on the Abnet farm, in Wabash Township, and the Richberne Oil Co. is drilling on the Corey farm, in Hartford Township, same county.

State Supervisor's Report

Interesting information compiled by T. M. Kingsbury, state gas supervisor, Department of Conservation, Division of Geology, gives scattered development over Indiana, by counties, as follows:

Adams County — Sprindler and others are drilling on the Abnet lease. Their last well was on the Doctor Wilson farm. In the Berne Pool a well is being drilled on the Cross farm, and the Richberne Oil & Gas Co. is drilling on the Cory farm. The I. M. O. Oil Co. is drilling Abraham Egley farm No. 1. Thompson and Pontius are the contractors. Their last well was on the C. A. Neuenschwander farm. Barney Swartz is the contractor. His last well was on the Greenfield farm. R. O. Grim has completed three wells on the Fred Kauffman farm and No. 4 is drilling. Paul Schulte and others, who have been drilling on Ed Lugabill farm, have made locations for four new wells.

Allen County — Cyrus Shoemaker and Jess Cochran are drilling on the C. Rekeway farm and I. C. Gerber farm, in Maumee Township.

Bartholomew County—Grandville Lee is down 200 feet on No. 2 on his farm in Wayne Township, south of Columbus. His No. 1 produced some gas.

Blackford County—Masters & Swaim are drilling on the Gerard farm, Section 7-24-12. Robert-Herman Oil Club is drilling on the Frank Jones farm. Their last well was on the Jacob Rinker farm, 5 miles southwest of Hartford City. It is reported to be making 30 bbls. at a depth of 1,027 feet.

Daviess County — Several wells have been started, but exact locations are not known. They are on the following farms: Brewer, McCracken, Goggin and Morgan. The J. E. Thoren well on the K. Kohoe farm, Harrison Township, Section 28, was dry at 1,386 feet. Bell Brothers completed No. 3 on the Pat Nolan farm, Reeves Township, Section 13, which made 8 bbls. initial production. They are drilling No. 4. Ruble & Collier drilled a dry hole on the Ruble farm, Barr Township, Section 31, and Hartman & Sargent got a dry hole on the Sylvester Swan farm, Veale Township, Section 29. In Section 28 they got a 10-bbl. well in No. 2 Jess Swan. They are now drilling on the Alonzo Veale farm, one-quarter mile south of the Swan farm.

Dubois County—William Meissner well No. 1, Section 6, Cass Township, being drilled by Wheeler and others, is shut down for orders.

Fountain County — A well is being drilled on the William B. Coffing farm, Troy Township, north of Veedersburg, by a Pennsylvania company.

Gibson County—One of the best wells

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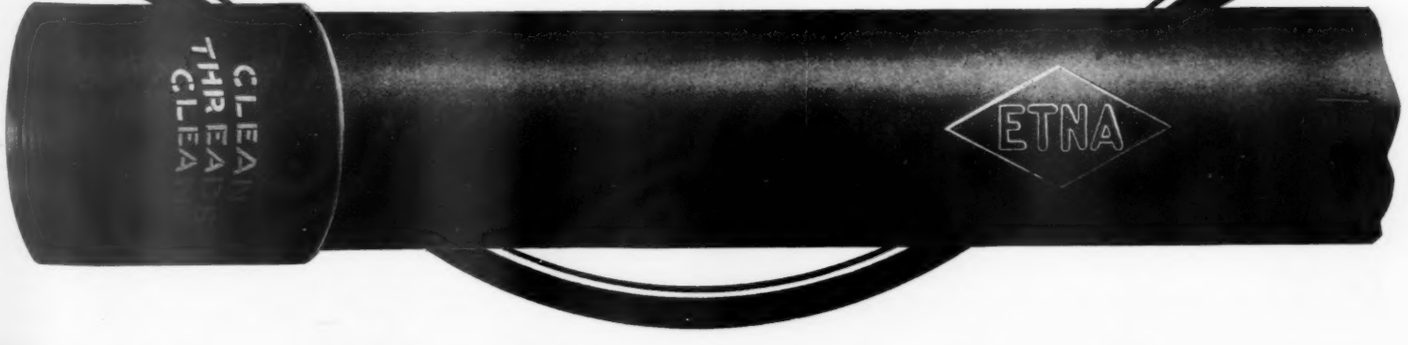

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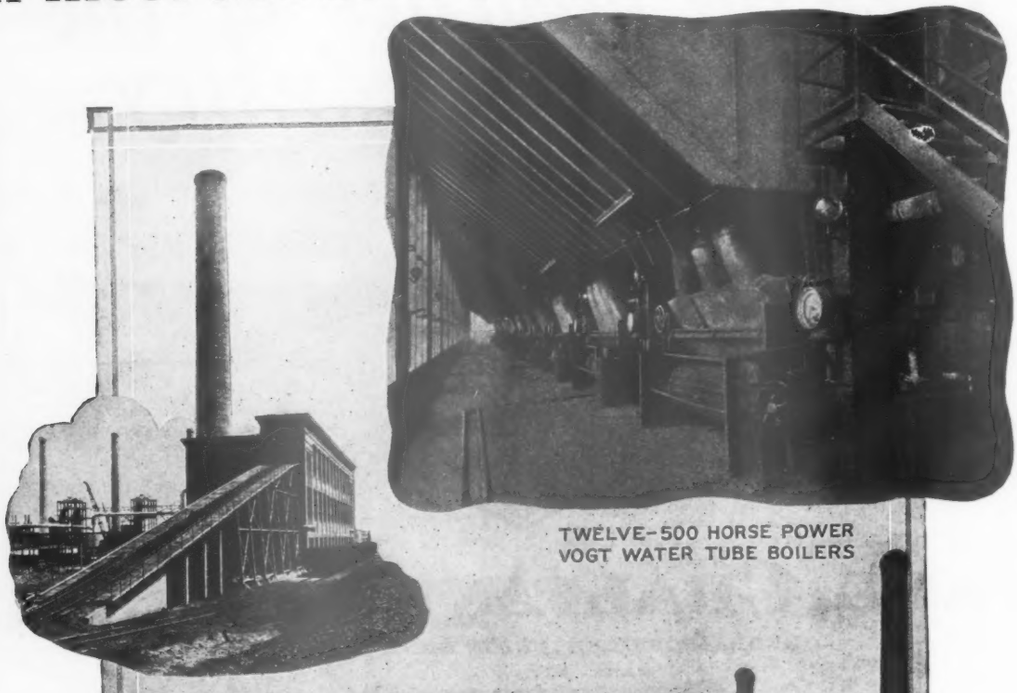

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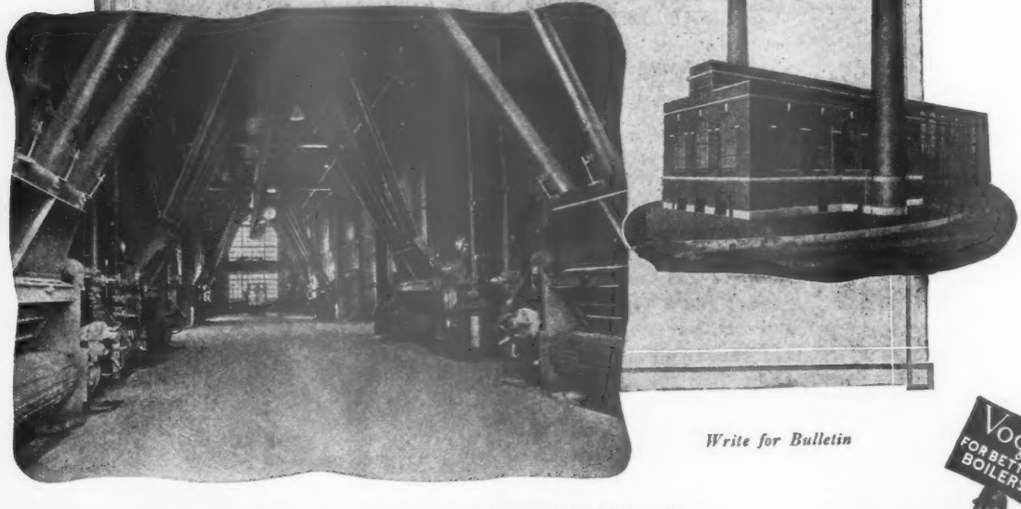

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to be brought in in the southwestern part of the state for some time was completed on the William Johnson farm, Section 13, Center Township, by Joe Young. It made initial production of 150 bbls. and was 1,409 feet deep. The Gem Oil Corp. completed No. 3 H. E. Raiborn, in Barton Township, Section 8, which made 7 bbls. and some gas. Its well on the S. M. Ferris farm, Section 5, is completed and producing, but it is not yet on the pump. It has started drilling on the Sam Barrett farm, Section 8. John Enlow and others, drilling on the Enlow farm, Section 15, Montgomery Township, have had bad luck on account of high water. They are now down 1,700 feet and are underreaming. Carter and others got a dry hole on the J. and A. Yeager farm, Section 26, Union Township.

Hancock County — Dr. Charles Titus got a good gas well on the T. Overman farm in Brown Township, just south of Wilkinson. Trenton was reached at 1,010 feet. Henry Davis plans to drill for gas on his farm northwest of Wilkinson. The Vernon Gas Co. plans to drill several wells near Fortville.

Harrison County—The Louisville Gas & Electric Co. has completed several good gas wells in Boone Township, the last two being on the Ida M. Liebert and Nettie M. Russell farms. Gas is produced from shale at a depth of about 700 feet.

Jay County—The Waterloo Oil & Gas Co. has completed No. 7 on the Clarence Brinkerhoff farm, Section 22, Bear Creek Township. Oil stood 600 feet in the well before it was shot. Several wells are nearing completion west of Pennville, where a 100-bbl. well was brought in several weeks ago on the Brown farm.

Johnson County—No report from the McQuiston well west of Franklin that was reported last month to be 2,200 feet deep. In the northeast corner of the county a well is being drilled on the Means farm. It is now 1,323 feet deep.

Kosciusko County—It is reported two wells have been drilled recently, one in Plain Township and one in Prairie Township.

To Drill Test

LaGrange County — T. W. Hunt has leased several hundred acres near LaGrange and plans to drill a test well. The Howe Oil & Gas Co. drilled in this vicinity two years ago.

Lawrence County — Two wells have been completed southwest of Mitchell, both of which produced gas. It is reported other wells will be drilled in this area.

Madison County—L. M. Chow, drilling for the Pendleton Gas Co. on the Charles Somers farm, north of Pendleton, got a good gas well at about 900 feet in depth.

Montgomery County—W. S. Peck and others are drilling on the W. L. Lee farm, west of New Market.

Monroe County—The Saddle Creek Oil Co. is drilling No. 2 on the Morgan farm, Polk Township, southeast of Bloomington. Last reports stated the well was 1,500 feet deep.

Perry County—W. C. Chancelor and others completed a dry hole on the Anna Weatherholtz farm, near Cannelton, at a depth of 1,255 feet.

Pike County—The No. 1 P. Atkinson, Section 23, Logan Township, being drilled by the Best Oil Co., is 1,230 feet deep and down for orders. The Bement Oil Co. is reported to have brought in a 10-bbl. well on the County Farm, Washington Township, and a 20-bbl. well on the No. 2 Elden Catt, Clay Township. Perry Andrews got a dry hole on L. Falls farm, Section 14, Logan Township, at 1,450 feet. The William Miley No. 1 being drilled by Morsey and others, same section and township, is shut down at 900 feet. The F. A. Schrolucker well No. 1 in Section 18, Jefferson Township, drilled by H. D. Smith and others, got a dry hole. The best well in the county for the month was drilled on the Jacob Williams farm, Section 2, Madison Township, west of Petersburg, by Henry Skidmore. Its estimated production is 75 bbls.

Randolph County — Craig & Dodson, drilling on the Elmer Deal farm, Section 8, Monroe Township, brought in a well reported to be making 2 bbls.

St. Joseph County—Michigan-Ohio Oil Co. is leasing near Granger in Harris Township, and plans to drill a test well.

Spencer County Duster

Spencer County — The Penn-Indiana Oil Co. got a dry well on the Emma Ayres farm, Clay Township, north of Chrisney. The Hoover well near Gentryville, is still down for orders. It is 1,220 feet deep.

Sullivan County—The Siosi Oil Co.'s No. 2 well on the Joe Thomas farm is reported completed at 2,105 feet, and is a producer, but it is not yet on the pump. The Ohio Oil Co.'s well on the M. J. Hale farm, east of the Thomas farm, is reported dry. The Alex Raley No. 4 completed by H. R. Knox and others, is reported to be making 4 or 5 bbls. a day. The Siosi Co.'s No. 3 well is down 1,700 feet. In Turman Township, Section 1, W. C. Kennedy and others are drilling No. 19 on the Lafayette Dix farm.

Vigo County—The Ohio Oil Co. is drilling on the W. F. Collins farm, Section 29, Prairie Creek Township, west of Middletown, and is down about 1,500 feet. In Linton Township, on the Therman McDonald farm, H. H. Adkins, drilling for the Midriver Oil Co., is having trouble with a fishing job. The well is about 1,000 feet deep.

Warrick County — Henley and others got a dry hole at 1,462 feet on the A. Dimmitt farm, Section 1, Greer Township.

Illinois

Just a short distance east of Bridgeport, in Bridgeport Township, Lawrence County, Illinois, the Big Four Oil & Gas Co.'s No. 1 in the southeast corner of the William Umfleet 40 acres, in the southeast quarter of the southwest quarter of Section 9, for the first 24 hours produced 30 bbls. from the Kirkwood sand at 1,624 feet. This will mean further operations in that immediate vicinity. In Lawrence Township, the Ohio Oil Co. has abandoned No. 1 in the northeast corner of the S. J. McPherson No. 2 farm, Section 14, southeast of Bridgeport and southwest of Lawrenceville.

In the Allendale Field of Wabash Township, Wabash County, the Cisil Heirs Oil Co.'s No. 4 well, 600 feet from the north line and 200 feet from the west line of the Jesse Cisil farm, in the southwest quarter of Section 1, is abandoned on account of salt water and leaky casing.

In Honey Creek Township, Crawford County, Craig, Lowrie and others' No. 17, in the northwest corner of the Charles J. Weger farm, in the northwest quarter of Section 14, produced 10 bbls. initial at 1,040 feet. John Phipps and others drilled in a fair gas well 600 feet from the north and east lines of the Randolph Heath farm, in the northeast quarter of Section 10.

In Casey Township, Clark County, W. C. McBride, Inc.'s No. 1 in the southwest corner of the Otho Davis farm, in the southwest quarter of Section 25, pumped 25 bbls. initial from the Stray sand at 1,440 feet.

Central Ohio

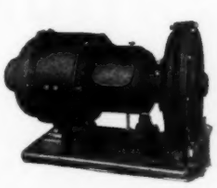
Only two completions were reported from the Central Ohio Field since the last review. In Medina Township, Medina County, the Empire Gas & Fuel Co.'s test in the northeast corner of the Charles C. Wilbur 104 acres, in the northeast quarter of Section 13, failed to find anything worth while at a depth of 2,950 feet and the well is reported dry. In Chatham Township, same county, the E. R. Edson & Son Co.'s No. 32 well, 1,020 feet from the south line and 90 feet from the west line of the Carl G. Packard No. 2 farm, Lot 4, Section 14, proved only a 1-bbl. pumper at 387 feet deep.

Reports from Mansfield are that Pittsburgh parties have secured leases on approximately 10,000 acres just south of that city and will drill two wells to test out both the Clinton lime and the Trenton Rock, the two deep producing sands.

COLONEL ZEVELY DIES

Col. J. W. Zevely, attorney for the Sinclair Consolidated Oil Corp. since 1917, died June 10 at his home in East Hampton, L. I. He served in the Department of the Interior under Governor Francis, then Secretary, during the second Cleveland administration.

TWO STAND-BYS



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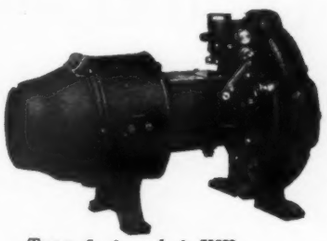

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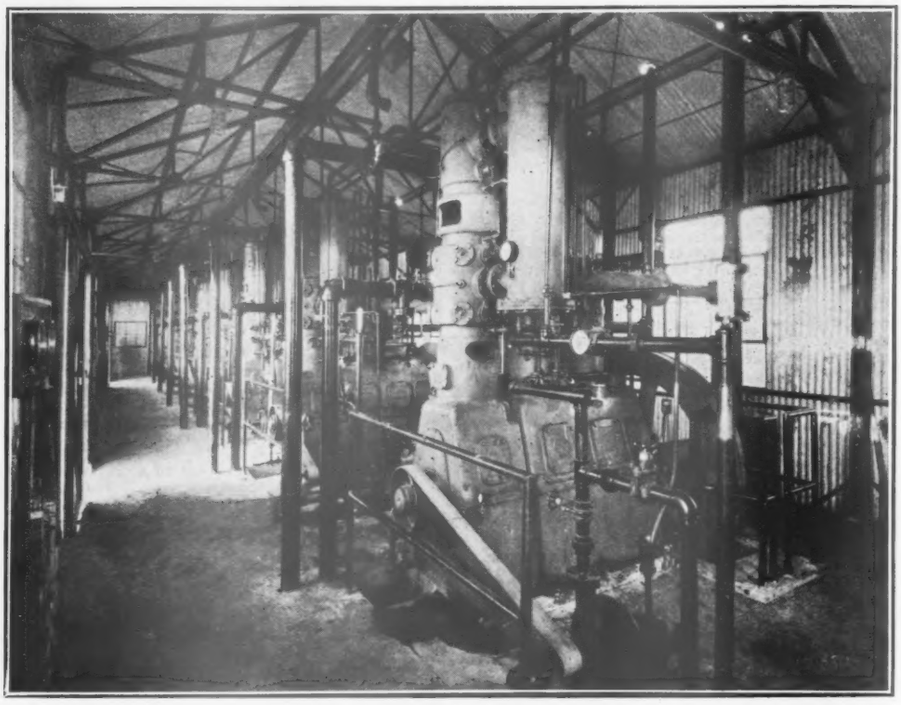

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LA.-ARK. WILDCATS

(Continued from Page 56)

30 L. & A., Section 34-16-7, without encountering the Nacatoch.

Bossier Parish

Estes and associates are down 3,015 feet in No. 1 Bodeau, Section 15-23-12, Carterville district, which they are deepening from a formerly completed level at 2,721 feet. Magnolia Petroleum Co. has completed No. 1 Dodson, Section 15-23-12, making an estimated 30,000,000 feet of dry gas from sand at 3,084-87 feet. John Glassell, Jr., and associates have abandoned as dry at 2 544 feet No. 1 Gibson-Tiger, Section 14-21-14. The Palmer Corp. has drilled the plug in its deep test, No. 4 Bossier, Section 9-16-11, and is bailing the casing. Depth of this test is 4,150 feet. W. R. Ramsey is milling out the core barrel at a depth of 3,077 feet in No. 1 Dodson, Section 16-23-12. In No. 1 Robertson, Section 22-23-12, he has cemented back to the 8-inch casing at 3,087 feet and is arranging to drill out this plug. This test originally had been drilled to a total depth of 3,392 feet. Sligo Syndicate's No. 1 Jeter, Section 23-17-12, is drilling in hard lime at 3,600 feet. Tubbs and associates are drilling at 3,210 feet in No. 1 Jacobs, Section 26-20-13. A former report that they were fishing for a drill stem was in error.

Claiborne Parish

Magnolia Petroleum Co. is drilling in lime at 3,695 feet in No. 1 Lee, Section 16-22-8. Tate and associates' No. 1 Maddox, Section 21-23-7, has gone out of chalky lime at 2,575 feet and is drilling at 2,671 feet.

DeSoto Parish

Dixie Oil Co.'s deep test, No. 1 Jenkings, Section 9-12-11, still is fishing. Fishing tools have been run to within 27 feet of the bottom at 5,283 feet without finding the lost cable tools. Magnolia Petroleum Co.'s No. 1 Logan, Section 17-10-12, cored a broken sand at 3,159-62 feet and has been shut down waiting orders. Reliance Drilling Co. is coring shale and gumbo at 2,382 feet in No. 1 Jones, Section 8-11-14. William Sebastian Syndicate shot a formation from 2,980 to 3,020 feet in No. 1 Sebastian, Section 11-10-13, and got a little gas. Total depth of the hole is 3,405 feet. Seip and associates are drilling rock at 2,371 feet in No. 1 Roberson, Section 18-10-12. The Texas Company is drilling the 6-inch plug cemented at 2,426 feet, in No. 15-C Sample, Section 26-13-12. This company is drilling again in an old well, No. 6-A Wemple, Section 2-12-12. It whipstocked through the 6-inch casing at 1,750 feet and is drilling in gumbo at 1,911 feet. The former depth of the hole was 2,420 feet.

Franklin Parish

Barbour Oil Co. is drilling at 2,530 feet in No. 1 Baker, Section 3-15-7e. The 6-inch casing was cemented at 2,525 feet. Hall & Harrell's No. 1 Duncan, Section 20-13-7e, tested a salt water flow in a sand at 2,081-84 feet.

Grant Parish

Paulette and associates are setting 6-inch casing at 1,585 feet in No. 2 Holmes, Section 17-9-16. Total depth is 1,591 feet. Rue and associates are arranging to resume drilling in No. 1 Elias & Williams, Section 10-7-4w. This test has been shut down at 1,913 feet waiting orders. Swope and associates have a sand at 1,796-1,801 feet in No. 2 fee, Section 18-9-1e, and are shut down waiting on a standard rig. A rig already is up for No. 3 fee. Tunica Petroleum Co. is drilling at 1,635 feet in No. 11 O'Bannon, Section 38-7-1e.

Jackson Parish

Charles A. Ferguson has abandoned as dry at 3,475 feet No. 1 Martin, Section 5-15-1e.

LaSalle Parish

Tunica Petroleum Co. is waiting on a standard rig to pump No. 29 L. & A. Section 9-7-2e. It has 400 feet of fluid standing in the hole from a sand at 778 feet. No. 32 L. & A. has 600 feet of fluid in the hole from a total depth of 769 feet and is shut down waiting orders. This company has started operations in No. 33 L. & A., and has set 10-inch surface casing at 34 feet. It has started another test in Section 8 in No. 1 Lacroix which is down 330 feet.

Nacatoches Parish

Ohio Oil Co. has abandoned No. 1 Thomas, Section 23-13-6w, which had drilled 10 feet into rock salt topped at 2,450 feet. This company has a rig up for No. 2 L. & A. in Section 26.

Rapides Parish

Minnesota Oil Corp.'s No. 1 Wettermack, Section 7-5-3w, is drilling in gummy shale at 2,468 feet. George Sabatier and associates are down 2,070 feet in No. 1 Ritchie, Section 38-5-4.

Red River Parish

Alden Oil Co. is drilling shale and lime at 2,720 feet in No. 1 Powell, Section 13-11-10. Hazlett & Simmons are drilling at 900 feet in No. 1 Neeley, Section 1-14-12.

Richland Parish

Ruston Drilling Co. is arranging to test No. 1 Earle, Section 5-16-6e. It is in a sand at 2,340 feet. All other Richland Parish operations are at a standstill.

Sabine Parish

Arkansas Fuel Oil Corp. has cemented 6⅝-inch casing at 3,115 feet in No. 6 Logan, Section 33-10-12, and also in No. 8 Logan and No. 1 Williams at the same depth. In No. 9 Logan the casing has been cemented at 3,153 feet. No. 1 Horn is drilling chalk rock at 2,082 feet. No. 10 Logan, which has just been started, is down 200 feet where 10-inch surface casing has been set. This company is setting 2½-inch tubing on top the broken sand at 3,203 feet in No. 1 Moore, Section 32. Total depth is 3,278 feet. The 2½-inch tubing also is being set in No. 1 Rembert, Section 5-9-12, which has a broken sand from 3,227 to 3,312 feet. Louisiana Oil Refining Corp. has completed No. 1 Logan, Section 28-10-12, flowing 60 bbls. daily through 2½-inch tubing from sand at 3,244 feet. L. M. Emlet is drilling shale and shell at 1,339 feet in No. 7 Bowman, Section 14-7-14. In Section 15, he is building a derrick for No. 1 Mansfield. Foster and associates have started a derrick for No. 1 Nabors, Section 30-10-12, and Frazier and associates have a location for No. 1 Harris, Section 29. Magnolia Petroleum Co. is shut down waiting on a drill stem at No. 1 Hall, Section 33. This company is coring hard sand rock at 1,287 feet in No. 2 Louisiana L. L. L. Co., Section 2-6-11. In No. 1 Rembert, Section 32, this company has set 13⅜-inch casing at 300 feet. Morgan and associates are drilling sandy shale at 1,535 feet in No. 1 Reese, Section 5-9-12. C. W. Robinson and associates' No. 1 Hamlin, Section 6-9-13, is in shale at 2,650 feet. H. P. Tate has staked a location for No. 1 Cook, Section 23-10-11. Woodley Petroleum Co. has abandoned temporarily No. 1 Robinson, Section 33-10-12, with total depth at 3,330 feet.

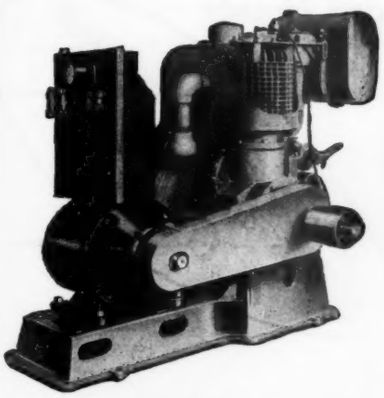
Winn Parish

Dodge & Cordell have shut down operations in No. 1 Tremont, Section 35-13-3w. It had reached a depth of 1,170 feet. Humble Oil & Refining Co. is coring at 1,320 feet in No. 23-A L. & A., Section 3-10-2w. H. L. Hunt's No. 1 Tremont, Section 27-10-1w, tested dry at 1,588 feet and is shut down waiting orders. J. C. Long is arranging to resume drilling in No. 1 Milam, Section 28-13-3w. It has been shut down at 1,550 feet. Ohio Oil Co. is drilling hard sand and lime at 2,602 feet in No. 1 McCarty, Section 5-12-1w. H. M. Roark is down 70 feet in No. 2 Southern Minerals Co., Section 19-11-3w.

ARKANSAS

Union County

C. H. Allison is drilling at 2,055 feet in No. 1 Howard, Section 8-19-13. A standard rig is being built to pump Ohio Oil Co.'s No. 1 Crain, Section 1-17-14, which has 2,200 feet of oil and 300 feet of water standing in the hole from sand at 3,009-14 feet. This is the test which caught fire from the boiler a week ago when it made a head after being bailed. In this section, the Ohio Oil Co. already is building a derrick for No. 1 Pumphrey. Marine Oil Co. has abandoned No. 1 Winn estate, Section 11-18-13, it having tested salt water at 2,711 feet. This test was completed last February at 2,705 feet making 50,000,000 feet of gas but during the latter part of May it suddenly stopped flowing and was drilled to a



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depth of 2,711 feet. In Section 9, Simms Oil Co. is arranging to deepen No. 1 Ballard, which was completed in March pumping 300 bbls. of fluid from a sand at 2,556 feet. Sun company's No. 1 Thompson, Section 10, was completed during the week making 20,000,000 feet of dry gas from sand at 2,643-57 feet but since then has turned to salt water. In Section 2, W. D. Wingfield has a rig up for No. 1 Hadley, the furthest north test in the Lawson-Urbana district. Wingfield Section 15-19-13. F. M. Vaughn's No. 1 Ezzell, Section 12-17-15, is pumping 50 bbls., 20 per cent salt water, from sand at 2,149-53 feet.

Ouachita County

Humble Oil & Refining Co. has abandoned No. 1 Jenkins, Section 15-14-19. It was dry at a depth of 1,394 feet. Magnolia Petroleum Co. is drilling at 1,860 feet in No. 1-B Stout Lumber Co., Section 28-14-16.

Calhoun County

Arkansas Natural Gas Co. is drilling gummy shale at 2,325 feet in No. 1 Stout, Section 2-13-14.

Clark County

Whelen Oil Co. has abandoned as dry at 2,351 feet No. 1 Burrow, Section 35-10-20.

Columbia County

Atlantic Oil Producing Co. is drilling gummy chalk rock at 2,955 feet in No. 1 Couch, Section 23-17-20. Colquitt & Thomas' No. 1 Duffer, Section 23-18-19, is in shale at 2,715 feet. Lion Oil & Refining Co. is drilling in sandy shale at 2,119 feet in No. 1 Pattee, Section 20-18-18. Mitchell & Eylers' No. 2 Bodcau, Section 4-20-21, is in rock at 2,793 feet.

Grant County

Jones & Watkins' No. 1 Meek, Section 5-4-11, is in a packed sand at 1,004 feet.

Hempstead County

Arkansas Natural Gas Co. is fishing the drill stem in No. 1 Goodlet, Section 34-10-26. Total depth of the hole is 1,841 feet.

Miller County

Lenz and associates' No. 2 Dale, Section 28-15-26, is shut down at 3,150 feet waiting on drill stem.

SOUTHWEST WILDCATS

(Continued from Page 55)

1,320 feet to northeast lines, is standing at 1,607 feet. Humble-Reiter-Foster's No. 6 Kohler, Survey 400, located 60 feet to west line and 660 feet to south line, is drilling in sandy shale at 2,231 feet. Humble Oil & Refining Co.'s No. 2 Welder-Woods, Survey 102, located 5,280 feet to south line and 4,500 feet to east line, is drilling in shale at 1,769 feet. Dixie Oil-Southern Crude's No. 1 Gray, Survey 316, located 330 feet to NE cor., is drilling at 2,560 feet.

Hidalgo County

Queen City Oil & Gas Co.'s No. 1 Adams, Lot 1, Block 82, Capisallo district, is drilling in blue shale at 1,454 feet. This was previously reported as W. E. Hornaday, location 7 miles north of Mercedes.

Jim Hogg County

Holden and others' No. 3 Jones, Share 27, Block 136, located 330 feet to east line and 440 feet to north line, is standing at 1,471 feet. Harry Hamilton and others' No. 1 Holbien, Block 44, Hamilton subdivision, 158 feet to south line and 363 feet to west line, is drilling at 1,804 feet, having tested dry at 1,640 feet through drill stem.

Starr County

Commonwealth Oil Co.'s No. 1 Garcia, Survey 538, located 2,722 feet and 2,102 feet to west line, is drilling at 1,450 feet. Southern Exploration's No. 2 Russell, Share 173-B, Porcion 69, located 150 feet to north line and 950 feet to west line, is rigged up and standing. Milham Corp.'s No. 2 Salinas, Porcion 111, SE cor., which the company had decided to carry as far as tools would go in search for information on the formations of the country, has tools stuck at 4,252 feet.

Zapata County

Buffalo-Erie's No. 1 Burtrand, Survey 627, is location 3,239 feet to northeast lines and 500 feet to northwest lines. E. K. Bateman's No. 2 Vela, Block 4, S. Vela 3,792-acre lease, 675 feet to northwest lines and 417 feet to northeast lines, is drilling at 400 feet. Roxana Petroleum Corp.'s No. 1 E. Lopez, located 150 feet to northwest and northeast lines of lease, is drilling at 450 feet. J. H. Winch's No. 1 Bustamente, Share 10, Block 8, located 150 feet to northeast and southeast lines, is fishing at 1,751 feet.

Webb County

Rio Grande Oil Co.'s No. 1 Urbahn, Santo Tomas tract, 10,000 feet to south line and 20,000 feet to east line, has completed rigging up. C. W. Killam's No. 1 Billings, SE NW Survey 43, located 150 feet to south line and 750 feet to west line, is on rock at 3,800 feet. Tubbs & Wright's No. 1 Reiser, Survey 1,617, Block 14, is drilling at 100 feet. W. O. Wheatley's No. 3 Kruger, Survey 1,570, Block 4, located 640 feet to north line and 421 feet to east line, is location for test.

Bexar County

W. L. McClanhan's No. 5 Sodrok, located 300 feet east of No. 4 in the Adkins Field, is drilling. Allen Burnam's No. 1 Ward, R. A. Ward 164-acre tract, southwest of Martinez, 600 feet to north line and 2,400 feet to west line, has derrick up and is moving in rig. A. R. Beal, trustee, No. A-1 Ackerman, Survey 133½, is drilling at 655 feet.

Bee County

Red Ant Oil & Gas Co.'s No. 1 Perry & Chesnut, 7 miles west of Pettus, has material on ground for derrick. D. Hewitt's No. 1 G. A. Ray, located 1½ miles west of Pettus, is drilling. Nichols & White's No. 1 Hicks, Hicks-Ball Survey, Block 19, NW cor., is shut down at 1,408 feet.

Caldwell County

E. F. Smith's No. 5 San Marcos River is location north of No. 4. Sutton & Smith's No. 2 Carter, Green Hindes Survey, is location 300 feet east of No. 1; No. 1 J. L. New, James Hindes Survey, 150 feet to west line and 600 feet to south line, has derrick up; No. 1 Robert Carter, G. Hinde Survey, 150 feet CNL, is running 2-inch tubing, total depth 2,597 feet. Kuhn & Armstrong's No. 1 Thomas, drilled in the early days of Lytton Springs Field, is standing 400 feet in oil and pump is being put on to make test; derrick and rig was moved 600 feet to the southwest for the Calco Petroleum Co.'s No. 2 Thomas, which has been spudded in. Detex Oil Co.'s No. 1 Hardeman, 4 miles north of Luling on the Lockhart Road, claims to have showing of oil. Joe Bruner's No. 1 W. F. Davis, Salt Flats, at 2,538 feet is running tubing and will put on the pump. Has little oil and some water in the hole and may make a very small well.

DeWitt County

Collette Oil Co.'s (Eduoard Raymond) No. 1 Boldt, James Lasater Survey, 3,129 feet to east line and 800 feet to south line of W. R. Boldt 250-acre tract, spudded in, has been delayed by work on titles. G. O. Williams and O. L. Gates' No. 1 Oscar Gohmert, G. W. Brooks league, 175 feet to north line and 300 feet to east line, has set surface casing at 100 feet. Empire Southern Oil Co.'s No. 2 Smith, Survey 3, located three-fourths mile west of No. 1, moving in new boiler, total depth 800 feet. McNeil & Matthews' No. 1 A. D. Kaiser, A. Dillard Survey, located 1,508 feet to NW cor., is shut down at 2,600 feet.

Dimmitt County

Humble Oil & Refining Co.'s No. 1 City National Bank, Survey 654, located 700 feet to north line and 2,000 feet to east line, is drilling at 2,720 feet.

Frio County

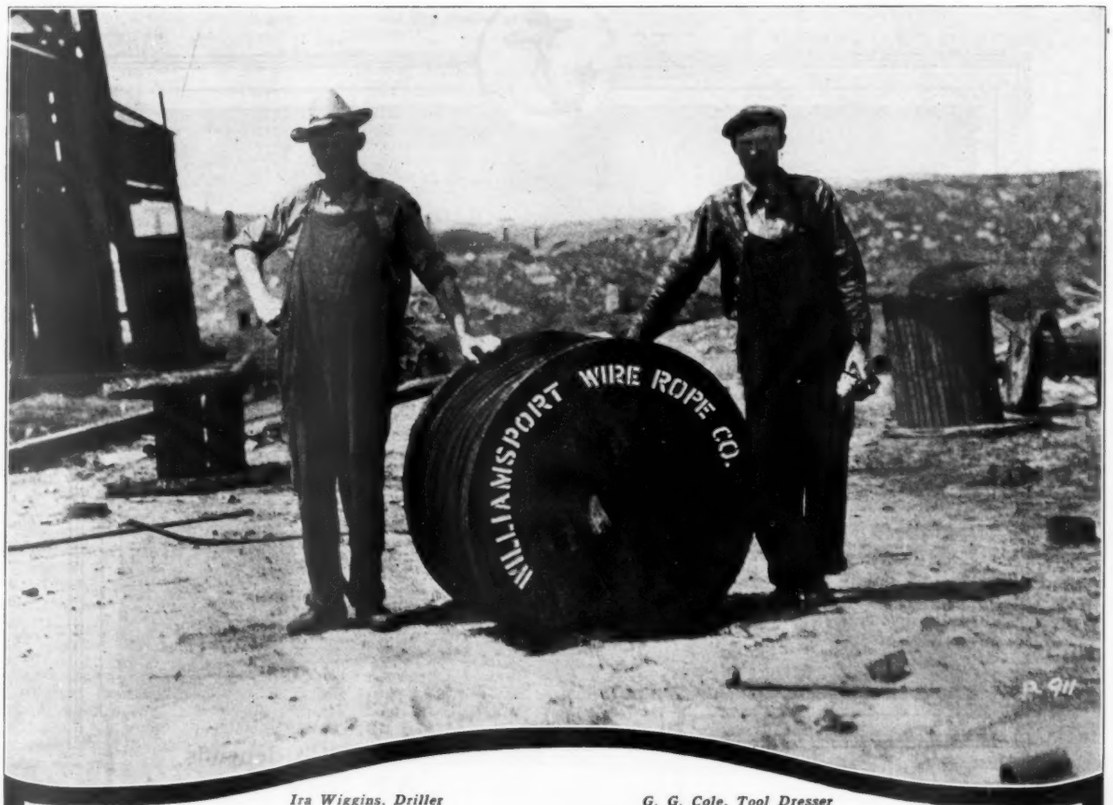
P. A. Neilan's No. 1 Blackaller, James Gouley Survey, abandoned at 3,005 feet with tools lost in the hole, and derrick is being skidded 150 feet for new test.

Fayette County

Magnolia Petroleum Co.'s No. 1 Fordtran, 9 miles northwest of La Grange on Cummings Creek, is completing rigging up and will be ready to spud in within a few days. La Fayette Oil Co.'s No. 1 Marquardt, J. R. Phillips Survey, 976 feet to northwest lines and 400 feet to southwest lines, is drilling.

Guadalupe County

H. H. Temple's No. 1 McAllister, Ed-



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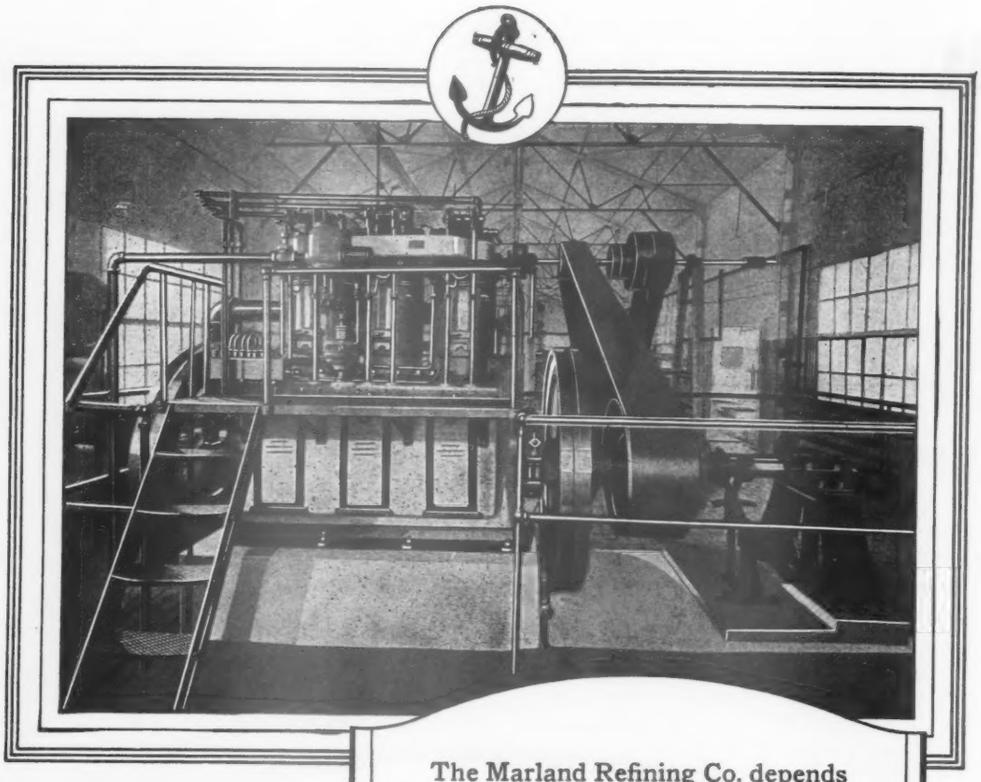

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ward Kellett Survey, 450 feet to northeast lines and 1,420 feet to northwest lines, at 1,762 feet took core, which is thought to be in the top of the chalk. F. A. Lain's No. 1 F. C. Weinert, W. K. Estell Survey, 150 feet CNL and 12 miles south of Seguin, at 3,002 feet has completed contract depth, no chalk encountered and formations hit somewhat low, and may drill deeper.

Hays County

J. E. Rodgers' No. 1 Hohenburg, 2½ miles east of San Marcos, at 1,120 feet tested only slight showing of oil and is now drilling at 1,350 feet in what is claimed to be the base of the Glenrose.

Jackson County

Houston Gulf Gas Co.'s No. 1 White, Gale Survey, east 20 acres, at 2,760 feet tested through drill stem and showed 800 pounds of rock pressure and casing is being set to complete well.

Kerr County

Walker-Van Duyn's No. 1 W. B. Leigh, Survey 38, located 500 feet north of river and 150 feet south of railroad, is drilling at 2,351 feet.

Kinney County

W. A. Stephens and others' No. 1 Jim Clamp, Survey 346, Section 1,492, located 5,362 feet to west line and 5,674 feet to south line of survey, is drilling in hard black lime at 805 feet. Havelin Oil Co.'s No. 1 Weatherby, Section 21, Block 5, is shut down at 4,330 feet in brown sandy shale.

Lee County

Bowers and others' No. 1 Brenbaum, located 200 feet to NW cor. of lease and 2 miles east of Monheim, at 1,520 feet is shut down with on'y slight showing of oil at about 1,500 feet. M. O. Ricketts and others' No. 1 Sanders, Joseph Maximillian league, 250 feet to SE cor., shut down at 800 feet.

Live Oak County

Delta Oil Co., Inc., No. 1 B. McNeil, Jane Curry Survey, 4,000 feet to NE cor., is shut down at 530 feet. Houston Oil Co.'s No. 3 Sellers, J. Muellin Survey, 700 feet to CNL, has been completed at 2,332 feet a gasser; No. 1 Dunning, M. B. Kivlin Survey, has set casing at 2,055 feet. R. P. Lightfoot's No. 1 F. W. Thomas, northwest of Coquat wells, is making test at 550 feet. Simmons Oil Co.'s No. 4 Sartain, Simms tract, western edge of county, at 1,700 feet tested salt water through drill stem. J. W. Walton's No. 1 Roberts, west of Three Rivers, is standing at 1,837 feet.

Medina County

Fennell & Williams' No. 2 John Fohn, Survey 115, east 100 acres, at 1,875 feet had trouble running casing, got it down 900 feet and it stuck, ran tubing and made test, and will be tested again. C. W. Simpson's No. 1 Blocker, Survey 20, located 150 feet to north line and 305 feet to west line, is drilling at 1,000 feet. Witherspoon Oil Co.'s No. 2 Redus, Survey 92, abandoned at 1,122 feet. R. P. O'Brien's No. 1 Nixon, Survey 531, is standing at 1,007 feet waiting on pump to make test. Johnson's No. 1 Aug. Mumme, Survey 100, standing at 1,100 feet. J. A. Swayze's No. 1 Oeffingers, Survey 129, Block 22, standing at 300 feet. Cecil Switzer's No. 1 Zerr, Survey 459, to set casing at 2,760 feet to shut off water. California-Medina's No. 1 Rothe, pulling casing at 3,119 feet to drill deeper.

Maverick County

Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, center at 1,200 feet has fished out collapsed casing and is resetting 12½-inch again. Johnstone & Hout's No. 1 Whipff, 9 miles from Eagle Pass, is shut down at 1,220 feet. Rycade Oil Corp.'s No. 1 Chittim, Section 129, Block 7, Chapotal Pasture, fishing at 5,592 feet with rotary; No. 2 Sullivan, casing collapsed at 3,832 feet.

McMullen County

E. R. Marts' No. 3 Farmers Life, Survey south of No. 56, is location 2,000 feet to south line and 4,000 feet to east line; No. 8 Poitevent, Survey 56, is location 1,250 feet to south line and 150 feet to southwest lines. C. H. Atherton's No. 1 Lark, location being made. R. L. Taylor's No. 2 Shiner, Survey 14, 150 feet to SW cor., has been spudded in. Nelson & Woods' No. 1 Shiner, Survey 48, Block 74, at 1,000 varas to east line and 350 varas to south line, is shut down at 783 feet. George Pickett's No. 1 Jacob, Survey 7, at 660 feet CNL, is drilling at 2,960 feet. Dodson and others' No. 1 Franklin, SW Survey 31, shut down at 1,100 feet. Houston Gulf Gas Co.'s No. 5 Jacob, J. Rees Survey, 600 feet to north line and 2,500 feet to west line, is standing at 904 feet. George M. Ball's No. 1 Kuykendall, Block 7, at 300 feet to south line and 600 feet to east line, standing at 1,390 feet.

San Patricio County

J. M. Davis' No. 1 Welhausen & Driscoll, Subdivision 6 or Taft Ranch, Section 68, exact center of Lot 8, location made and contract let. F. S. Smiley's No. 1 T. E. Wilson, one-fourth mile northwest of Angelita, is location, derrick blown down recently. W. L. Pearson's No. 6 Gage, Rachal Survey, 1,550 feet south of No. 5, on sand at 2,360 feet. Huber & Crawford's No. 1 Mathis, Delgavo Survey, Block 17, location 300 feet to northwest lines and 2,500 feet to southwest, shut down at 2,516 feet. John Sigmund's No. 7 McCampbell, is shut down to change crews.

Victoria County

R. M. Talbott's No. 1 J. K. Reeves estate, located 2,000 feet to west line of estate, shut down at 750 feet.

Val Verde County

Magnolia Petroleum Co.'s No. 1 Whitehead, Survey 81, waiting on material. Douglas Oil Co.'s No. 1 Sellers, Section 82, Block A, rig burned down at 2,940 feet. Hiawatha Oil Co.'s No. 1 Sellers, Section 1,031, Block A, straightreaming at 1,900 feet, total depth 2,600 feet. Crusoe Williams' No. 1 Holman, Section 5, Block N, fishing at 2,920 feet. O. O. Owens and others' No. 1 Henry Mills, Section 145, in black shale at 2,460 feet, straightening hole. Independent Operator's No. 1 Whitehead, SE SE Section 30, Block 4, shut down at 3,900 feet in lime. A. Blume and others' No. 1 Moore, Section 183, shut down at 2,676 feet. East Del Rio Oil Co.'s No. 1 Russell, Section 183, shut down at 3,140 feet.

Wilson County

Thomas and others' No. 1 Aug. Haese, Survey 124, located 300 feet to NE cor., is fishing for slips at 780 feet.

Zavala County

B. F. Thompson's No. 1 West, West ranch, northern part of the county, has derrick up. J. G. Pundt's No. 1 West, east of Uvalde on the Batesville Road, is drilling at 110 feet.

LOUISIANA-ARKANSAS

(Continued from Page 56)

tion 13-21-15, is down 3,853 feet but has lost the underreaming lugs. No. 10 Slattery, Section 27, is bailing casing with total depth at 3,877 feet. Dobson and associates are drilling the 6-inch plug at 1,850 feet in No. 5 Rives, Section 5-20-16. Falcon Drilling Co. is in chalk rock at 1,560 feet in No. 1 Schmidt, Section 27-20-15. Gilliam Syndicate's No. 1 Taylor, Section 17-21-14, has been shut down with the total depth at 914 feet. Gulf Refining Co.'s No. 269 Ferry Lake, Section 29-20-16, is in red shale at 2,615 feet. This company's No. 13 Tyson, Section 14-21-15, is down 3,710 feet, having drilled out the 6⅝-inch plug at 3,700 feet.

B. A. Hardy's No. 1 Trosper, Section 35-18-16, Waskom district, has been completed as a 10,000,000-foot gasser in sand at 876-93 feet. His No. 2 Angurs, Section 6-16-16, is drilling at 1,262 feet. A derrick has been started for No. 1 Bickham, Section 23-18-16. No. 1 Hammock, Section 27-18-15, is at a depth of 884 feet where 8-inch casing has been cemented. No. 1 Wheeler, Section 18-18-16, is down 750 feet.

Coring Hard Lime

Haynes Brothers are coring a hard lime at 3,649 feet in No. 1 Murray, Section 14-21-15. Lewis Oil Corp. has cemented 6-inch casing at 1,460 feet in No. 18 Raines, Section 22-21-15. Luby Oil Co.'s No. 16 Levee, Section 23-22-15, has been completed pumping 15 bbls. daily from sand at 1,050 feet. Magnolia Petroleum Co. has recemented 4½-inch casing at 2,910 feet in an attempt to shut off salt water encountered when the original plug was drilled out. This company's No. 4

All in One
CASING HEAD
PACKING SPIDER
BLOW-OUT PREVENTER
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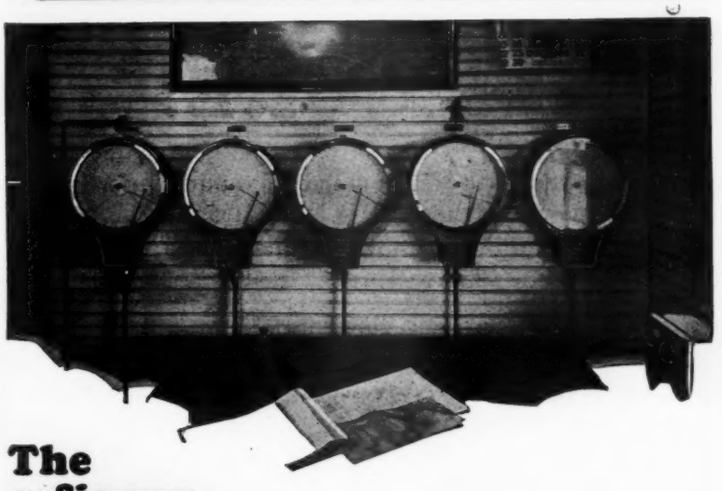

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Caldwell, Section 24-21-15, is being bailed at 1,620 feet after a formation at 1,480 feet was shot. This company's No. 16 Dillon, this section, is to be put on the pump. It bailed salt water with a showing of oil at 1,200 feet. Total depth is 1,750 feet. Magnolia Petroleum Co.'s No. 1 Bell, Section 4-17-16, Waskom Field, has been shut down until water lines can be changed. It is at a total depth of 1,596 feet. No. 20 Robertshaw, Section 23-21-15, is drilling in shale and lime at 3,685 feet, having passed up a sand at 3,659 feet testing salt water with a show of oil and gas. Marshall Natural Gas Co.'s No. 1 Sharp, Section 22-18-16, tested salt water in a sand at 1,910 feet, using a tester.

Ohio Oil Co. has abandoned temporarily No. 1 Aaron, Section 32-23-16. It had reached a depth of 1,553 feet. In this section, this company has started operations in No. 1-E Plum, drilling below 50 feet. Ohio Oil Co.'s No. 25 Smith, Section 12-21-15, is in hard lime at 3,650 feet. Shreveport Oil Corp.'s No. 2 State, Section 27-21-15, is drilling at 2,000 feet. Simplex Oil Co. is down 2,250 feet in No. 3 Thomas, Section 15-20-15. Standard Oil Co. has a 40-bbl. pumper in No. 13 Hart, Section 34-21-16. The oil is from a sand at 1,823 feet. No. 14 Hart also is to be completed as a pumper, it now being shut down waiting on a standard rig at a depth of 1,823 feet. The Standard Oil Co. has a rig up for No. 2 Trosper, Section 34-18-16. The Texas Company is drilling at 730 feet in No. 4 Hutchinson, Section 9-15-12. No. 13-B Noel, Section 14-21-15, is being reamed to the bottom at 3,035 feet.

LaSalle Parish

Louisiana Oil Refining Corp. has completed No. 1-B Tremont, Section 30-10-2e, Urania Field, flowing 1 bbl. daily from a sand at 1,585 feet. In this section, Ayres Brothers have set 10-inch casing at 100 feet. Natural Gas & Fuel Co. has a rig up for a test at No. 9-M Urania, Section 20.

Monroe District

Consolidated Carbon Co. has completed No. 1 White, Section 16-20-4e, Morehouse Parish, making 25,000,000 feet of gas from a sand at 2,147 feet. In Section 5-21-7e, this parish, Falcon Drilling Co. is down 1,055 feet. The Urania sand was topped at 1,026 feet. Natural Gas Producing Co.'s No. 20 Crossett, Section 21-23-7e, is drilling at 1,100 feet.

In Ouachita Parish, Jordon Drilling Co. has a rig up for No. 2 Fudican, Section 25-18-4e. Ladell Properties, Inc., has cemented 6-inch casing at 2,174 feet in No. 40 feet, Section 29-20-5e. No. 41 fee, Section 31, is down 1,800 feet. Palmer Corp. has completed No. 4 Millsaps, Section 25-19-2e, making 24,000,000 feet of gas from sand at 2,191 feet.

C. E. Camette's No. 1 Tugwell, Section 21-22-1e, Union Parish, is drilling at 2,210 feet. Southern Carbon Co. has a rig up for No. 1 Tulley, Section 19-20-4e.

Webster Parish

W. T. Hunt is drilling sandy shale at 700 feet in No. 1 Bistenau, Section 35-18-10. Louisiana Oil Refining Corp. is drilling the plug cemented at 2,559 feet in No. 7 Gray, Section 28-21-10. Magnolia Petroleum Co. has cemented 10¼-inch casing at 2,860 feet in No. 3 Cox, Section 23. This company is bailing casing at 2,546 feet in No. 1 Marshall, Section 21, and is drilling at 2,256 feet in No. 2 Marshall. Northwest Louisiana Gas Co. is drilling hard lime at 4,210 feet in No. 1 Coyle, Section 22. Ohio Oil Co. has cemented 8⅝-inch casing at 3,395 feet in No. 4 Bank, also in Section 22. In Section 23, Woodley Petroleum Co. is drilling at 1,590 feet in No. 1-B Cox.

ARKANSAS

Union County

In the Norphlet area of the Smackover Field, E. M. Jones' No. 2-A Lawton, Section 10-16-15, tested dry at a depth of 2,068 feet but is drilling ahead with the total depth at 2,140 feet. Magnolia Petroleum Co.'s No. 9 Murphy, Section 8, is being cored at 2,724 feet. The same company's No. 6 Wilson, Section 17, is drilling at 2,943 feet. National Gas & Fuel Corp.'s No. 3-E Murphy, Section 9, has 800 feet of fluid in the hole from sand at 2,391-96 feet. In Section 10, Sam Richardson has a 6,000,000-foot gas well in No. 5 Lawton, flowing from sand at 2,737 feet. This is an old well deepened from a sand at 2,616 feet, where it was completed making 80 bbls. of oil and 8,000,000 feet of gas daily. Southern Crude Oil Purchasing Co.'s No. 5-A Wells, Section 15, is being cored at 2,682 feet.

In the Louann Pool, G. J. Childs lost the bailer in attempting to bail No. 2-B fee, Section 8-16-16, for a test of sand at 2,260-68 feet, and now has a fishing job. Magnolia Petroleum Co. is bailing No. 1 Union Lumber Co., Section 21-16-16, for a test of sand at 2,655-62 feet. In the East El Dorado Field, Grimes & Jones have a rig up for No. 1 Hill, Section 7-18-14. Mountz and associates are setting 6-inch casing in No. 6 Pratt, Section 8-18-15.

Ouachita County

The Louann Pool in Ouachita County got a 35-bbl. pumping well in Middlesex Oil Co.'s No. 5 Shirey, Section 36-15-17, which was completed at a depth of 2,305 feet. F. A. Book's No. 3 Johnette, Section 33-15-16, tested dry with a showing of oil at 2,247 feet. It is shut down for boiler repairs. In the Norphlet district, Exchange Oil Co.'s No. 3 Berg, Section 4-16-15, has the liner stuck at 1,983 feet, following a test of sand at 1,964-89 feet. This test originally was drilled to a total depth of 2,352 feet but was cemented back to 1,900 feet, where the casing was milled out and the hole drilled to 1,989 feet. A short string of 4½-inch casing was cemented at 1,964 feet. This company has cemented 6⅝-inch casing at 2,357 feet in No. 7 Berg, also in Section 4.

Phillips Petroleum Co. has started to deepen No. 15 Joyce, Section 33-15-15, which formerly was completed at a depth of 2,595 feet making 20,000,000 feet of dry gas daily. The hole has reached a depth of 2,625 feet. Roxana Petroleum Corp.'s No. 1 Reynolds, Section 27, is shut down waiting orders after testing salt water at a depth of 2,689 feet. Sunny Jim Oil Co.'s No. 12 Berry, Section 33, tested salt water at 2,364 feet, but the 4½-inch casing has been recemented at 2,359 feet to shut off the water. The Texas Company has a fishing job in No. 1 Spahr, Section 35-15-16, with two joints of 8¼-inch casing stuck at 1,198 feet. This test cored a sand at 1,184-98 feet. Unity Petroleum Co. is drilling out the 4¾-inch plug cemented at 2,388 feet, having changed to cable tools.

Buffalo Oil Co. has started a new test in the Stephens Field in No. 3 Culp, Section 32-15-19, which is down 50 feet. Magnolia Petroleum Co.'s No. 1 Morgan, Section 7, is drilling in rock at 2,620 feet.

Nevada County

Advance Oil Co. has completed No. 1 Atkins, Section 9-14-21, pumping 60 bbls. daily from sand at 1,243-48 feet. Greason and associates' No. A-1 Groves, Section 12, is pumping 100 bbls. from sand at 1,148-52 feet, and J. J. O'Brien's No. 1 Moss, Section 1, is pumping 175 bbls. from sand at 1,149-53 feet. Fruen and associates are drilling gumbo at 1,135 feet in No. 1 Rhodes, Section 22-12-21. Humble Oil & Refining Co. is moving in a rig for No. 1 Hein, Section 1-14-21. In this section is J. J. O'Brien's No. 2 Moss, in which 6-inch casing has been completed at 1,141 feet. A derrick also is up for No. 3 Moss.

CANADIAN FIELDS

(Continued from Page 86)

Gas No. 1, LSD 4, Section 7-6-1w5, has been held up by wet weather. The test is reported up ready to spud in, awaiting the O. K. of the boiler inspector.

Vain Efforts to Save Well

On the Montana side, it is announced that the Hart-Green syndicate No. 1 test, Lerum farm, SW, Section 11-37-2w, is pulling casing preparatory to abandoning the well. The tools were held fast at the bottom of the 5⅞-inch string. A detailed report on this well by Frank Skelhorne, geologist for Commonwealth Oils, Ltd., is in part as follows:

"The log of the well checked up very favorably with those of the Kevin-Sunburst Field. As the well was located

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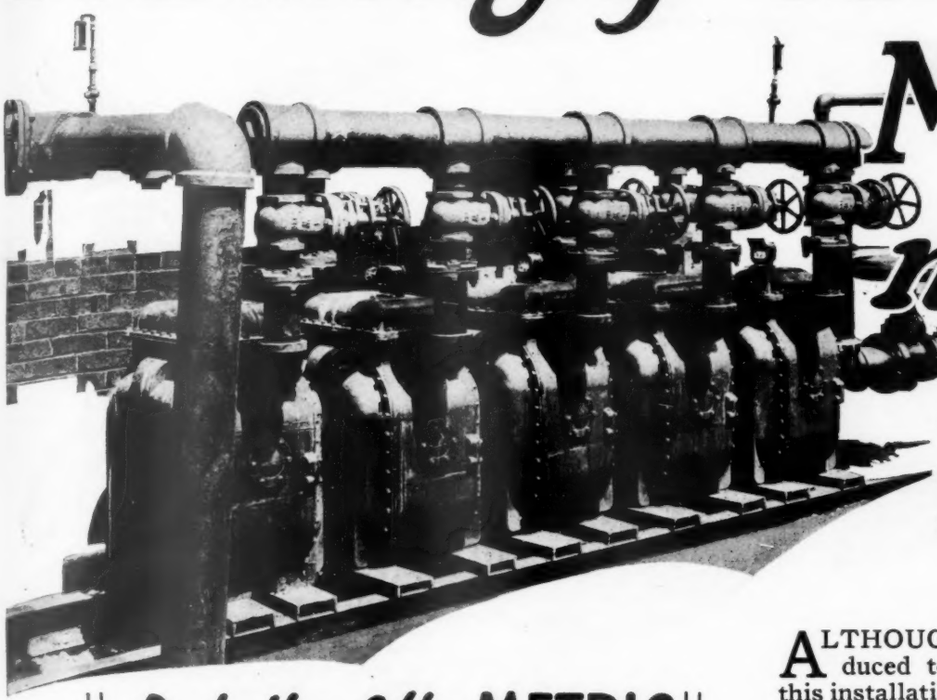

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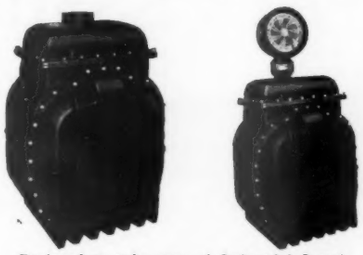

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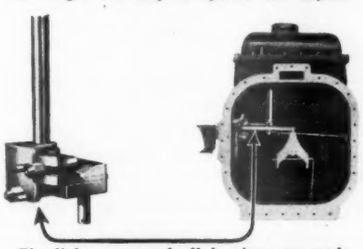

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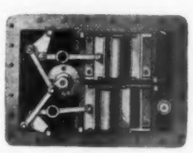

Top view showing the valve table with valve and arm construction. Note the slight lateral movement necessary in operation.

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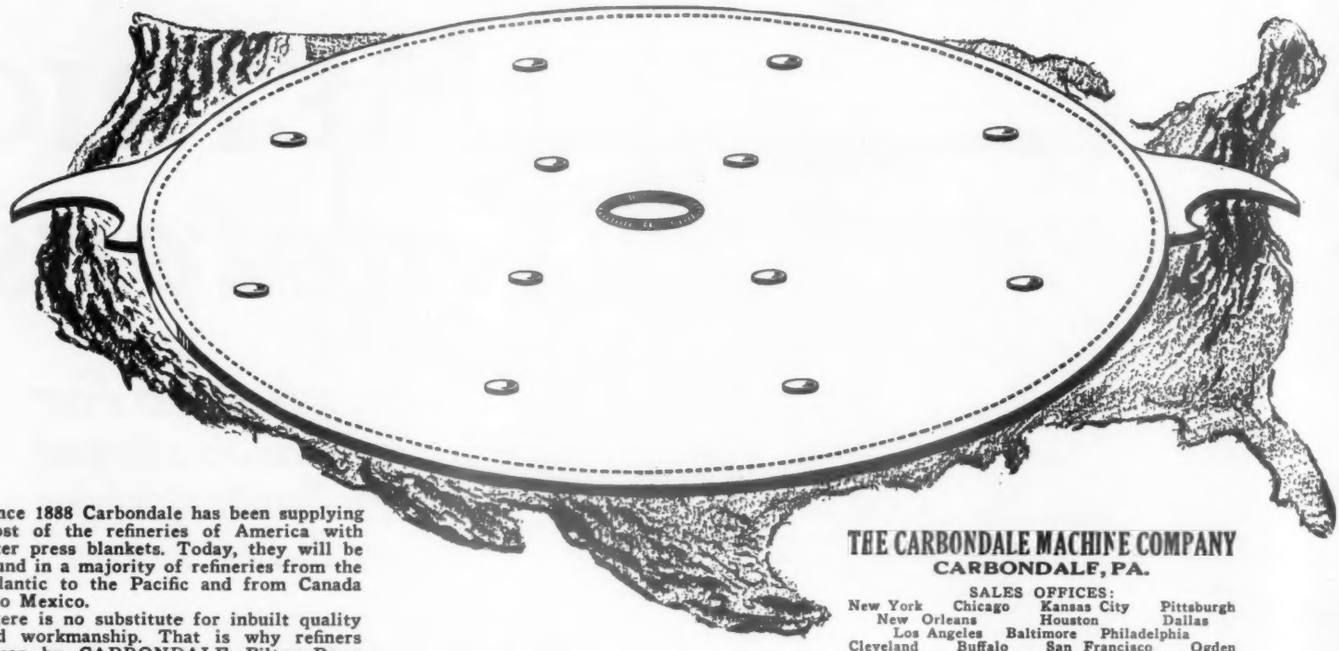

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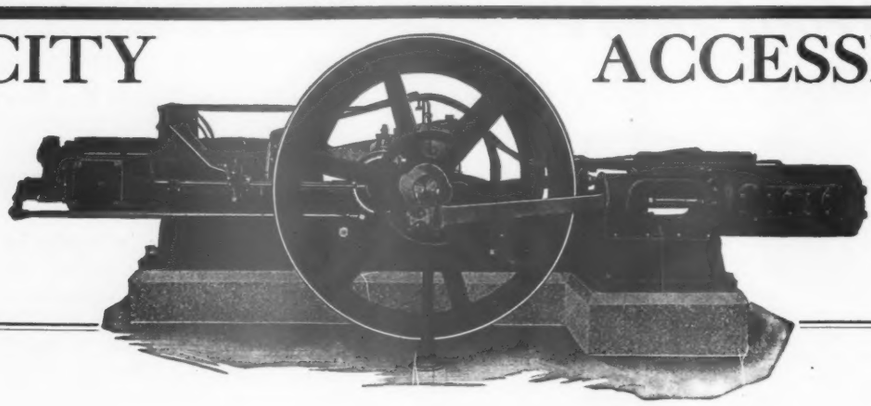

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8 miles north of the nearest producing well, and the dip and overburden is 67 feet to the mile, the hole was known to be some 550 feet lower, consequently the Ellis was not expected before 2,340. About the end of the second week in May the drillers encountered the black, limey sand which is known to lie above the Ellis. This has been found in all the border wells, noticeably and McLean Mitchell well and the Urban. It is some 75 feet in thickness at the border, according to the log of the Urban well; a little more than 60 feet was drilled in the Hart-Green. Underneath this is a hard cap rock. In the Hart-Green this was drilled through about 10 a. m. on Monday morning, May 16, the bit immediately penetrating an oil sand. It was no sooner met with than the tools were thrown into the hole for a considerable distance. They were successfully withdrawn and the bailer run; this came back full of a dark brown oil, and it was noticed that the drilling line was smeared with the fluid for about 75 feet.

"Orders were given that drilling operations be suspended until the Winnipeg men were communicated with, but the same afternoon it was found that the walls of the well below the casing were caving in and the hole bridged. So drilling out the bridge commenced the same afternoon, and when the bailer was run again it came up full of oil which had forced its way through the caving. Several bailersfull were taken from the hole and the last two were part water and part oil. This gave rise to the assumption that the well was making more water than oil, and it was decided to let it stand pending the arrival of Mr. Hart-Green.

"As the drillers were uncertain regarding the water horizon, the Senator E. Michener interests decided to retain the technologist of the Commonwealth Co., H. M. B. Inglis, with a view to getting the necessary information. Mr. Inglis secured samples of the long and found the water was coming from a stray sand between the black lime and the Ellis. On analysis it was found to be fresh water without any sulphur content.

"When Mr. Hart-Green arrived a consultation was held regarding the advisability of drilling the well into production. The unfortunate part of the drilling program had been the premature reduction in the size of the hole. To shut off a quicksand the size of the hole had been reduced from a 6-inch hole to a 5 3/16-inch, using the old string of casing which could not be duplicated in the field, thus preventing underreaming and the carrying down of that particular pipe to shut off the stray water sand. It would have taken six weeks to get sufficient casing from Pittsburgh. The well was constantly caving, due to the fluids seeping down the walls, and the drilling-in would be undertaken at considerable risk of burying the tools.

"It was finally decided that the Commonwealth should undertake the well under the direct supervision of Mr. Inglis, and work was commenced. Mr. Inglis found upon his arrival at the site that the hole was completely bridged below the casing to the bottom of the well, a distance of some 250 feet. On running the bailer it was discovered that about 2,000 feet of oil and water was standing in the hole; the oil evidently had forced its way up through the bridge.

"Samples of the oil were sent to the Maple Leaf refinery at Coutts and it tested 22 gravity. The oil was rich in lubricants and of a dark brown color, similar to that generally obtained in the Montana Field. The sample submitted was a very poor one. The work of cleaning out the well proceeded, but after several days in fighting the caving and getting the tools buried, it was found to be an almost impossible task. The cost would have been prohibitive, so it was decided to suspend operations. Mr. Inglis stated that in his opinion a commercial well would have been secured with production around 125 to 150 bbls. a day from the showings encountered if the well had been properly handled. The test so far has been the most important discovery close to the boundary."

Cypress Hills

In the Cypress Hills district, southeastern Alberta, W. G. Rowe of Toronto is arranging to commence geological work for a Toronto syndicate which some weeks ago filed on 80,000 acres.

In the Medicine Hat Field, it is reported that Roth Syndicate No. 2 deep test, Section 8-13-6w4, is being abandoned at 3,150 feet. The casing is being pulled and the hole cemented in. This is the second deep test for oil drilled by the Roth syndicate in the Medicine Hat Field, the first having failed to find oil and being ultimately finished as a gasser. It is reported that another deep test will be undertaken in a different part of the field.

Some distance north of the Hart-Green test, a Calgary group is planning to drill this summer on the Beaver Dome, where considerable acreage has been secured. The Beaver Dome is in Township 2, Ranges 10 and 11w4, being about 4 miles across, with the Benton shale outcropping. At the time of the Calgary boom, the Beaver Oil Co. of Calgary drilled a test in Section 24-2-11w4, about 25 miles east and north of the Hart-Green and 6 miles northeast of the Rogers-Imperial gasser. This was one of the first rotary tests in Alberta. At 1,450 feet it had got some shows of gas and oil; but was not carried deep enough to test the horizons productive in the Hart-Green and Devenish Petroleums tests. The Beaver log shows the following: 150 feet, artesian water; 350 feet, oil showings in a 4-foot asphalt bed; 555, sandy shale, showing of gas and oil; 800, good show of oil and gas; 1,450, sand, good show of gas and oil; 1,850, big flow of gas, estimated at 20,000,000 feet; 2,700, gas and oil. The largest oil showing was at 1,450 feet.

Viking Gas Field

In the Viking gas field east of Edmonton, Northwestern Utilities No. 13 is drilling close to the producing sand. The derrick is being built for No. 14, which will spud in as soon as No. 13 is finished. No other drilling will be undertaken by Northwestern Utilities, Ltd. in the Viking Field this year.

In the Ribstone Field, Ribstone Oils, LSD 1, Section 1-46-1w4, got a good show of gas at 1,315 feet. Drilling was continued and a second and heavier flow was encountered just below the 1,400-foot level, sufficient to throw the rotary mud 30 to 40 feet up into the derrick. The test is now drilling between 1,400 and 1,500 feet, with water entirely shut off. The gas horizon appears to correspond to that in which Imperial-Ribstone No. 1 got a gas production estimated at 4,000,000 feet a day. Advance Oil Co., No. 3, LSD 1, Section 16-45-1w4, will resume drilling about July 1 at 504 feet. Imperial-Ribstone No. 1, Section 5-45-1w4, is at 3,489 feet and shut down. London-Ribstone Oil Co., LSD 14, Section 10-43-3w4, has its camp buildings and derrick up and is installing machinery. The test will spud in late in June. Dave Credille is in charge of the drilling. Imperial-Ribstone No. 1, Section 5-45-1w4, is at 3,489 feet and trying to remove the length of drill stem. It is reported the test will be abandoned and the outfit moved to a new location.

In the Irma-Wainwright Field, National Exploration Co., LSD 1, Section 30-45-6w4, has resumed drilling after setting the surface casing at 360 feet. British-Wainwright No. 1, LSD 4, Section 22-45-6w4, is running 12½-inch casing preparatory to cementing at about 1,000 feet. British Petroleums Ltd. is delivering crude oil from No. 3-B well, LSD 4, Section 29-45-6w4, to the London-Ribstone test on the Ribstone structure, for fuel.

In British Columbia, C. C. Julian, California operator, has secured incorporation of the Monte Christo Mining Co., with capitalization of $10,000,000. His plans for development work have not been announced.

In Ontario, Union Natural Gas Co. No. 15, Dawn Township, Lambton County, is reported drilling at 1,900 feet. In Kent County, Union National Gas Co.

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COLUMBUS, OHIO

No. 268, George A. Jackson farm, Romney Township, is drilling at about 500 feet. No. 269, same farm, has spudded in.

OKLAHOMA FIELDS

(Continued from Page 44)

rig for No. 3 Cowden, NE cor. SW Section 4-9-5. Pierce Oil Corp. made location for No. 3 Davis, SE cor. NW Section 30-7-4. Independent and Darby's No. 1 Standridge, NW cor. SW Section 14-7-4, has been completed in the Hunton lime at 3,651-3,700 feet flowing 135 bbls. through tubing.

Stephens County

Gilmer Oil Co. has built the rig for No. 4 Inscore, SW cor. SE SE Section 24-1s-4w. Harry Hanbury is building the rig for No. 1 Taliaferro, SE cor. NE SE Section 23-1s-8w. Wade and others made location for No. 1 Byrd, SW cor. Section 35-1-6w.

Seminole County

The Texas Company's No. 3 Wilmott, SE cor. NE SE Section 10-9-5, in the Earlsboro Pool, is drilling deeper at 3,605 feet. Phillips Petroleum Co. has the cellar dug for No. 2 Dunaway, NE cor. NW NW Section 14-9-5. Carter Oil Co. has the rig on the ground for No. 1 Mandler, NE cor. NW SW, Section 3-9-6. Pure Oil Co. has the rig on the ground for No. 4 Aldridge, NW cor. NE SW Section 3-9-6, Seminole Pool. The rig has also been moved out for No. 5 Aldridge, SE cor. NW, Section 3-9-6. Roxana Petroleum Corp. has the rig on the ground for No. 2 Strothers, SW cor. NE, Section 3-9-6. Indian Territory Illuminating Oil Co. made the cellar for No. 1 Allen, SW cor. NE, Section 25-9-6. The cellar has been dug for No. 1 Fleet, SE cor. NW, Section 25-9-6. Tidal Oil Co. has the rig on the ground for No. 2 D. Harjo, NE cor. SW Section 25-9-6. Gypsy Oil Co. has dug cellar for No. 4 Cumsy, NW cor. NE SE Section 10-8-6, Bowlegs Pool. Sinclair Oil & Gas Co. has moved the rig out for No. 4 Taylor, NE cor. NW SE Section 10-8-6. Carter Oil Co.'s No. 1 Hilly, NE cor. SE Section 23-8-6, is drilling deeper at 4,130 feet.

Pure Oil Co.'s No. 2 Thompson, SW cor. SE SW Section 33-11-8, is swabbing 250 bbls. from the Wilcox sand at 4,106-78 feet. Sinclair Oil & Gas Co.'s No. 13 Pierce, NW cor. SE SE Section 33-11-8, was completed for 109 bbls. in the Wilcox at 4,212-40 feet. Gypsy Oil Co. and the Prairie Oil & Gas Co.'s No. 1 Micco, SW cor. NW Section 12-10-7, is dry and abandoned at 4,528 feet. Magnolia Petroleum Co.'s No. 5 Sparks, SW cor. Section 11-9-5, Earlsboro Pool, made 3,589 bbls. from the Wilcox sand at 4,294-4,301 feet. Inter-Ocean Oil Co.'s No. 1 Payne, NW cor. NE SE Section 12-9-5, made 550 bbls. from the Wilcox sand at 4,306-10 feet. Philmac and Marland Oil Co.'s No. 1 Dobbs, SE cor. Section 8-9-5, had the Wilcox sand at 4,320-23 feet and produced 365 bbls. Roxana Petroleum Corp.'s No. 1 Strothers, NW cor. SW NE Section 3-9-6, Searight Pool, made 4,368 bbls. from the Wilcox sand at 4,365-72 feet. Superior Oil Co.'s No. 1 Noble, SE cor. SW SW Section 10-9-6, Seminole Pool, topped the Wilcox sand at 4,315 feet, drilled to 4,349 feet where the hole was lost and the well plugged back to 3,610 feet and abandoned after a shot. Carter Oil Co.'s No. 10 M. Killing, NE cor. NW NW Section 23-9-6, was shot with 30 quarts in the Wilcox sand at 4,142-68 feet and made 4,738 bbls. Indian Territory Illuminating Oil Co.'s No. 7-A James, NW cor. SW SE Section 24-9-6, lost the hole at 3,540 feet and was abandoned. Carter Oil Co.'s No. 4 Lukes, SE cor. NE NE Section 27-9-6, was shot with 40 quarts in the Wilcox sand at 4,150-81 feet and made 485 bbls. Gypsy Oil Co.'s No. 2 T. Cudjo, SE cor. SW NE Section 34-9-6, made 1,577 bbls. from the Wilcox sand at 3,982-4,072 feet. Carter Oil Co.'s No. 4 R. Cudjo, SW cor. NW SW Section 35-9-6, was given a shot of 30 quarts and made 800 bbls. on air from the Wilcox sand at 4,080-4,128 feet. McCullough Oil Co.'s No. 2 Butler, SW cor. SE NE, Section 35-9-6, made 900 bbls. flowing by air from the Wilcox sand at 4,425-32 feet. T. B. Slick's No. 8 Franks, SE cor. SW NE Section 35-9-6, drilled to 4,304 feet in the Wilcox sand and plugged back to 3,517 feet where it made 86 bbls. Sinclair Oil & Gas Co.'s No. 1 Taylor, SW cor. NW SE Section 10-8-6, Bowlegs Pool, made 2,505 bbls. on air from the Wilcox sand at 3,998-4,018 feet after a shot of 30 quarts. Sinclair Oil & Gas Co.'s No. 1 Ellen, SW cor. NW SW Section 11-8-6, was shot with 20 quarts in the Wilcox sand at 4,002-40 feet and made 2,810 bbls. Carter Oil Co.'s No. 4 Harjoche, SE cor. SW NW Section 14-8-6, topped the Wilcox sand at 4,048 feet and the second Wilcox sand at 4,152-4,215 feet after shooting 50 quarts it made 1,810 bbls. on air.

Pure Oil Co.'s No. 8 Reed, NW cor. SE Section 14-8-6, made 3,026 bbls. on air from the Wilcox sand at 4,156-83 feet. Shaffer Oil & Refining Co.'s No. 2 Lacey, NE cor. SE SW Section 14-8-6, was shot with 20 quarts and made 2,122 bbls. on air from the Wilcox sand at 4,152-76 feet. Carter Oil Co.'s No. 2 Bowlegs, NE cor. SE SW Section 15-8-6, made 2,325 bbls. from the Wilcox sand at 4,437-50 feet after a 40-quart shot. Gypsy Oil Co.'s No. 9 Walker, SW cor. NW SW Section 15-8-6, was shot with 10 and 20 quarts in the Wilcox sand at 4,160-4,257 feet and made 1,557 bbls. Indian Territory Illuminating Oil Co.'s No. 1 Goforth, SW cor. NE Section 15-8-6, has been abandoned at 3,031 feet. No. 1-A Goforth, SW cor. NE Section 15-8-6, was completed for an initial production of 1,275 bbls. from the Wilcox sand at 4,544-4,206 feet. No. 2 Walker, SW cor. NE SE, Section 15-8-6, topped the second break at 4,261 feet, drilled to 4,271 feet and plugged back to 4,267 feet and made 2,454 bbls. on air. No. 2 Wilmouth, NW cor. NE NE, Section 15-8-6, made 2,443 bbls. after two shots in the Wilcox sand at 4,034-4,103 feet. Sinclair Oil & Gas Co.'s No. 2 Walker, NE cor. Section 22-8-6, completed in the Wilcox sand for 2,320 bbls., top of the sand at 4,102 feet and total depth 4,141 feet.

Atlantic Oil Producing Co.'s No. 2 Fleet, NW cor. NE NW Section 23-8-6, drilled the Wilcox sand from 4,219-40 feet and after shooting with 20 quarts it made 1,000 bbls. Magnolia Petroleum Co.'s No. 1 Buck, SW cor. SE NE Section 16-8-8, is shut in for 16,000,000 feet of gas from sand at 3,233-35 feet. Dixie Oil Co.'s No. 4 E. Parker, NW cor. NE SW, Section 32-8-8, Wewoka Pool, has been completed in the Hunton lime and Wilcox sand, flowing 1,400 bbls. from total depth of 4,115 feet. Magnolia Petroleum Co.'s No. 6 R. Jones, SW cor. SE NW Section 32-8-8, is producing 300 bbls. from the Hunton lime at 3,854-4,012 feet and the Wilcox sand from 4,142-53 feet. Shaffer Oil & Refining Co.'s No. 9 Jones, NW cor. NE SW NW, Section 32-8-8, made 1,175 bbls. the first 24 hours from the Hunton lime at 3,874-4,010 feet and the Wilcox sand at 4,148-56 feet. Carter Oil Co.'s No. 1 Phillips, NW cor. NE NW Section 18-6-8, is flowing 61 bbls. from sand at 2,806-14 feet.

Tulsa County

Regal Oil & Gas Co.'s No. 3 S. Bell, SE cor. NE SW Section 5-19-11, an old well deepened, is making 10 bbls. from the Wilcox sand at 2,178-85 feet after plugging back from the Turkey Mountain sand.

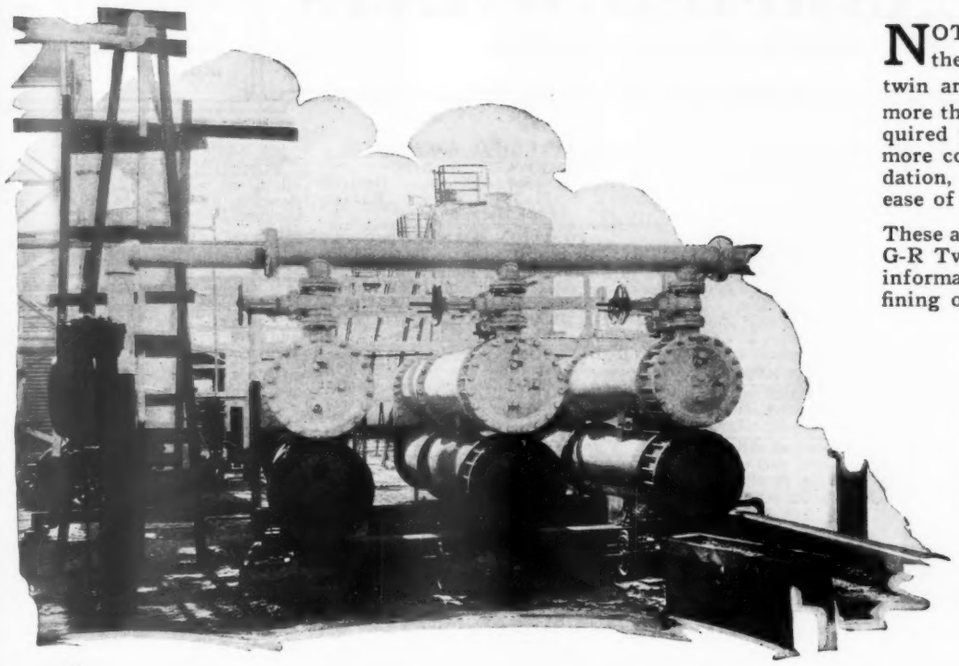
LAVACA COUNTY TEST

HOUSTON, Tex., June 18.—M. L. Benedum of Pittsburgh, Pa., and W. Claud Smith, rotary contract driller of Houston, Tex., have blocked up 14,000 acres around Ezell, 14 miles south of Hallettsville, Lavaca County, Texas, in the coast country. A deep test will be drilled by Smith. Lavaca County is one of the coast counties that never got much of a play and this test will be watched with interest.

FRENCH GET PERSIAN OIL

There was a decline of well over 50 per cent in gasoline imports in the Nantes district during the first quarter of the current year and a heavy importation of fuel oil. The principal source of supply was Persia.

THE G-R TWIN HEAT EXCHANGER



NOTE the comparatively short length of these G-R Twin Heat Exchangers. The twin arrangement makes them only a little more than half the length of a single unit required for the same duty, resulting in a far more compact apparatus, with simpler foundation, less expansion strains, and greater ease of transportation and erection.

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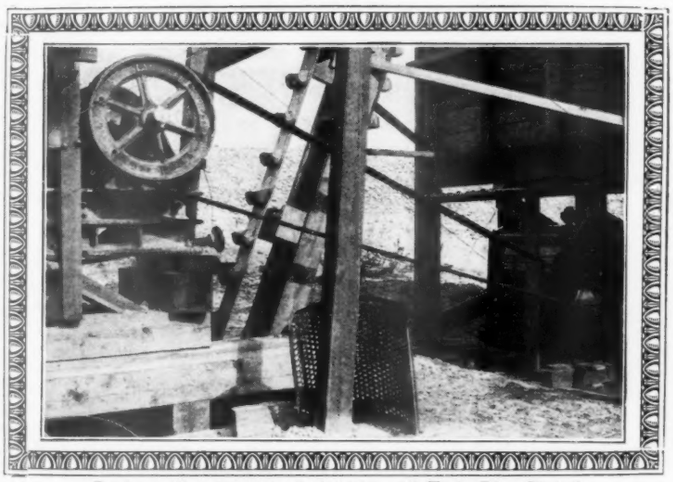

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Chicago—Motive Parts Co. of America, Inc., 2419 Indiana Avenue.
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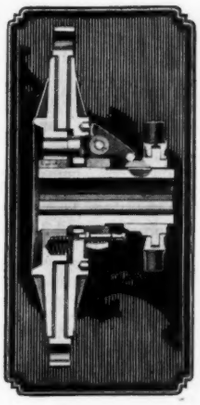
Detroit—Whitney Brothers, 6464 Epworth Boulevard.
Los Angeles—Coast Machinery Corporation, 406 E. Third Street.
New York City—E. George & Co., Broome & Wooster Streets.
Philadelphia, Pa.—Maerky Machine Works, 240 Cherry Street.
Pittsburgh, Pa.—Motive Parts Co. of Pa., 6314 Penn Avenue.
Raleigh, N. C.—Motor & Equipment Co., 215 E. Davie Street.
San Francisco—F. Somers Peterson Co., 57 California Street.
Tampa, Fla.—Motive Parts Co. of Florida, Inc., 708 Twiggs Street.
Tulsa, Okla.—Buda Engine Service Co. of Tulsa, Inc.

TWIN DISC CLUTCHES



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No Change in Chicago Spot Gasoline

Kerosene Was Easy and All Grades of Fuel and Furnace Oils Were Firm at Week's Opening

By J. B. Waldo

CHICAGO, June 20.—The spot market showed no change in gasoline, kerosene was easy and all grades of fuel and furnace oils firm on Monday. Recent fine weather has increased the consumption of gasoline and the approach of the national holiday with its opportunity for touring should induce some larger buying, although many think that any extra consumption has been provided for.

The market for U. S. Motor was steady at 6¾ cents. The higher gravities were steady but in moderate demand. Kerosene was easy Monday with several sellers stating they were holding for 4⅛ cents and little doing at any price. Refiners are asking 4¼ to 4⅜ cents.

Distillates were firmly held but the demand was nominal. Gas and fuel oils were firm owing to the situation at the refineries but there was only a routine business doing here. There were a number of inquiries in the trade but few orders were closed. Generally, including all products, Monday's business was only fair in the spot market and there was no real indication of any change in conditions over the week. The weather was fair and cool over Saturday and Sunday with heavy rain Sunday night and Monday clear and warm. The prediction is for warmer weather with occasional thunderstorms.

Spot Market in Rut

The spot market has continued in the same rut it has been in for a month or more. Leaders are looking for something that will get it out but so far have been unable to discover any leverage that would move it from that well-worn path summed up in a fairly steady movement on contracts and light spot buying. Business from the Northwest is making a better showing than from the central and southern parts but at best it is none too good.

Some of the reasons for this attitude have been mentioned previously and, of course, the outstanding factor is the shipments on contracts. Perhaps the condition of the roads should come first, for it is the literally impassable roads that make the contract deliveries more than sufficient for the requirements of the distributors in most localities. Financial conditions in the country districts are also a potent reason for the slow buying.

Most often the current contracts for gasoline call for quantities based on last season's distribution by the jobber with a small addition for the expected increase. If this increase is diminished by such factors as the weather and road conditions the supply obtained through contract deliveries will be sufficient. We will very likely have some increase in orders placed with refiners after the first of next month. In fact, July Fourth coming on a Monday will give another opportunity for a three days holiday which will be the occasion for much touring, especially if the roads are in shape. Some may think too much is being said of bad roads but those who drive over the country say that not until one has actually tried to drive these roads does he realize country conditions. One stretch of a state highway between here and St. Louis has skidded into a marsh by the undermining of the foundation through so much flooding of the land. A temporary road has been laid out along the hills from which this condition is easily observable.

Small Lots

No large orders were booked in the Chicago spot market during the past week. Some orders of 25 cars and some bookings over a period have been made but the greater part of the business has been done in lots of single cars or a few cars. The demand is for the U. S. Motor grade and for the special grades sold as antiknock or having some special specifications. Some demand has been for the 60-62 437 endpoint or with an endpoint a little less. This is a fairly good seller right now, especially in the Northwest. There are some of the cracked gasolines sold which while they conform to the endpoint and the gravity of the U. S. Motor grade do not have the regular distillation curve, being, the refiners claim, of superior value, although in some cases sold for a little less money than the U. S. Motor gasoline. There is a good deal of difference of opinion between dealers and between motorists regarding the superior qualities of various makes and specifications. One of the most widely-traveled motorists says he has given up his former preference for special brands and when his car needs a fill he drives into the first station and takes what they sell regularly. He finds there is very little difference in the running of the engine. He believes the different kinds of gasoline show their effect more on the driver than on the engine. There has been little demand for the 64-66 375 or other high test products. Natural gasoline has been quiet here and sales not important.

Prices Little Changed

The price situation is very little changed. The price for the U. S. Motor gasoline was pegged all last week at 6¾ cents and any departure from this price was for some special reason in the origin or make of the gasoline or because of some mischance in shipments or the like. There was no regular offering of a full U. S. Motor gasoline at less than 6¾ cents. The same is true of any higher prices. Refiners who were holding for 7 cents dropped to the 6¾-cent price and all were harmonious as to prices. Sales made at any higher price for the U. S. Motor grade were also for some special reason, usually with contract customers, exclusive distributors or the like. The range of gasoline prices was very narrow. For the Motor grade 6¾ cents, for the 64-66 375 grade 7¼ cents. There was not enough of the 68-70 gravity moved to make a market but another one-fourth cent would include that grade in the range of prices. Earlier in the week there was more confidence expressed in the future than at the close. Continued price cutting, lowering of the export price and a lower quotation for California gasoline laid down in New York, indicated that what changes were made were not towards a stronger market. The low price for U. S. Motor gasoline to the wholesale dealer for resale was not less than 6⅝ cents, according to reports from Group 3, and this price was not easy to get by all buyers at all times. There was some gasoline due on previous purchases bought at 6½ cents and gasoline could be had from some southern refining cities for differential points at prices as low as 6.15 cents, Group 3, and for some special points at less than that. Of course this gasoline was not available to the entire trade but where it was available for shipment it took the place of gasoline that would have otherwise been sold out of the Group 3 market. It must not be forgotten that the supply of gasoline available for delivery in some parts of this territory from other than the Group 3 refiners is increasing quite rapidly.

Kerosene Slow

Kerosene was very nearly a drug on the market all of last week. There was only a limited movement and, as was suspected by many, distributors report they have ample stocks for any possible demand. There are, of course, some exceptions and some of the larger complete oil companies have had to add to their stocks but the chief large buyer is very frequently in the market for kerosene as the company's own production is less than its requirements in any season of active demand from consumers. The price has sagged and it has been possible to buy good kerosene at 4 cents out of the Group and at a little less than cost out of some of the differential refining centers. North Texas refiners sold at 3⅞ and 3¾ cents. The result is that while some of the refiners' officers here have been holding for 4½ cents and others at 4⅜ cents, the dealers have bought at 4¼ cents and in some cases the price made was 4⅛ cents. There is, as a rule, little of the shopping around that is the case in gasoline buying. It is only the occasional buyer that rakes the market for the lowest possible price for kerosene. There is little demand for the 42-44 gravity and offerings are light.

Distillates Quiet

Distillates have continued to move slowly in the spot market but there has been some contracting for the winter's supply. One of the large local refiners reports it has made a price of 4¼ cents flat over the season and has booked contracts for several million gallons. A large distributor reports it has contracted for a million gallons at 4 cents flat over the season for 38-40 straw distillate. The weak situation in the kerosene market is having some effect on the price for distillates. Other refiners are making some contracts at the market price date of shipment with protection in the way of a maximum of 4½ cents and a minimum of 3½ cents. All of these prices seem low compared with the contracts and even the spot market last fall.

The demand for furnace oil is almost certain to show a material increase over last season but the large majority of recent installations are burners that will operate successfully on a good gas oil and the increase in the consumption is expected to be largely in grades of furnace oil with a gravity of less than 36 degrees. The spot market is firm but the quotations still run for immediate shipment at 3¼ cents for the 38-40 straw and at 3 cents for a 36-38 dark distillate. If the oil is exceptionally desirable, because of low flash and cold test and good color and odor, the asking price would be an eighth to a quarter higher but desirable oils have been bought very recently that could be sold at a profit by wholesale dealers at the prices named but only for prompt shipment. The larger local distributors, while making some contracts as a rule, will do the bulk of the buying after the first of July as is their custom and may not be in a hurry even then. So far refiners have made no statements as they did last year that they would crack everything and have no distillate for sale. Distributors report they are meeting with good success in signing up their customers for next winter's consumption.

Gas Oil Firm

The gas oil market is firm and offerings of the light color oils with furnace oil qualities are light. For one reason many refiners in Louisiana and north Texas who are usually a good source of supply for thes oils are finding a market nearer home and at better prices than they could readily secure in this market. This demand is that of the rice planters and similar industries who use this grade of oil in their irrigation plants and for other purposes. Some of the northern Louisiana refiners state they can secure 3½ cents and better for this grade of oil for this purpose. This demand should last until well into August and so far the floods in the South have seemed to have no influence in reducing this seasonable demand. There has been some local inquiry and a little sizable business has been contracted in advance with the industries but as a rule the large buyers are holding off. The gas companies are drawing on storage except where they get a low price in which case they will place orders. Apparently their price is pegged at 2½ cents and any higher price receives little attention except from the smaller concerns whose storage is limited and who are in the market at fairly regular intervals. There has been some buying by distributors for delivery sooner or later in the season. Some inquiry is being received daily from distributors regarding contracts and several have been closed recently. Usually these contracts are based on the market at the date of delivery with a maximum and minimum price which in several cases are 3 and 4 cents, respectively. One of the larger refiners is offering a limited number of contracts to old customers who use the entire line of products; that is a good deal better for the dealer as it allows a fill of the dealer's storage at a flat price, subsequent deliveries to be at the market or regular price of the seller at the date of delivery. The Roxana Petroleum Corp is now delivering gas oil for its cracking stills to the Bartels-Maguire refinery which is a near neighbor to the Roxana plant at East Chicago by a pipe line so that the seller has a steady customer and the buyer a nearby source of supply. The elimination of practically all freight charges permits the making of a mutually advantageous agreement. There are a number of large industrial plants located conveniently to the large refineries at East Chicago and Whiting who, it would seem, might be able to secure their supplies of the products of which they use considerable quantities regularly, by a similar agreement.

Fuel Oil Situation

The fuel oil market has continued firm owing to the situation with refiners rather than to the extent of the demand from users. It is generally stated in this market that the refiners have sold considerable fuel oil to the railroads and at present are in position to hold their prices which they have been doing. There have been no recent large offerings of fuel oil suitable for industrial use. On the other hand the demand is practically unchanged. There are a number of inquiries out for amounts running up into hundreds of cars and some for smaller amounts. Some are for immediate delivery or over brief periods while others are for yearly or half yearly contracts. Among the larger buyers whose contracts are reported as expiring shortly, some of them on July 1, are the Interstate Steel & Wire, the Inland Steel Co., the International Harvester Co. and other large buyers. Several of these have used some of the very heavy fuel oil from Wyoming and all of them are equipped to use a heavy oil. The buyers in several instances have stated they would not contract at present but would buy in the open market until such time as their ideas as to the kind of a contract they wanted had been met. After the first of next month there may be more doing with such organizations or they may change their mind and accept one of the several contracts offered them. The auto companies are doing even better than they expected partly from the large export business that has come to them this season and which may prove a more important part of their business in the future.

The total demand for fuel oil is about fair for the season but more spot buying as a rule and less on contracts than has been the case. This gives the smaller dealers a better show with even the largest users. The result is that the business is

badly split up and incidentally some of the active, aggressive smaller concerns are making progress and securing the entree into the buying offices of some of the largest consumers. The bulk of the business is in the refinery oils, little Smackover and similar fuels coming into this territory. Prices are nominally higher but there are numerous quotations made that indicate either short selling, which is merely guessing the fuel oil market will not hold, or that some refiners are selling below the quoted market. One inquiry for 60 cars of 18-20 fuel oil received several bids of 85 cents. Deliveries were to be over four months. The buyer was still looking for a lower price and in fact called up some concerns with whom he had previously done business or from whom he had received bids on previous inquiries and asked them for prices, telling them he could buy at 85 cents and from whom. As might be expected with such competition for orders there is a good deal of complaint made by the buyers of the quality of the oil furnished and occasionally a contract is canceled and quite frequently cars are refused because of the poor quality of the oil supplied. This is not always the fault of the seller although it might be good policy in the long run to explain to some of the purchasing agents that their specifications are in fact a meaningless jumble of terms, frequently contradictory and quite often not protecting the buyer against the delivery of oils unsuited to his requirements. Generally it is stated it is impossible to sell any grade of fuel oil below the 24-26 gravity at less than 90 cents a barrel and come out even. The 24-26 gravity is generally quoted at 95 cents and the higher gravities at $1 to $1.10 per barrel, Group 3 delivery.

Lubs Unchanged

Lubricating oils are unchanged as to price. The demand for motor oils is fairly good, not very active but some demand right along and the same is true of the industrial oils. In all branches there is much complaint of excessive sales efforts and some take peculiar forms as the organization that is sellling to any buyer outside the industry a pump and small tank and 125 gallons of lubricating oil guaranteed 100 per cent Pennsylvania grade crude and then placing the outfit on consignment with some garage or service station, collecting weekly and accounting to the owner of the tank and pump for the oil used. This plan is said to be extensively worked in Detroit and is just being introduced here.

Tank Wagon

There has been no general change in the tank wagon scale but the price wars continue and seem to deepen in intensity. It was believed that the last reduction in the scale would do away with most of the price cutting but there is as much if not more and recriminations are rife. Each and every oil company accuses the others of starting the trouble and each seems to have a collection of exhibits of what the other fellow is doing. The favored scheme is, as before, to make a contract with some club, benevolent association or co-operative society for a discount to its members which is based on the total amount bought by the membership. To keep track of all these various schemes to increase the gallonage must make jobs for a large number of accountants. It has been reported that one company is handing out cards with numbers around the four sides. The card states that each purchase is to be punched from the numbers on the card and when a total of 100 gallons is recorded on the card the holder is to receive a rebate of 2 cents a gallon on the total quantity bought. These schemes sound really funny when told, but the fact is this constant irritation is bound sooner or later to provoke reprisals in which all the oil men will suffer. This fact should be considered and every possible influence exerted in favor of a maintenance of prices. The plan of selling at the bulk stations is being attacked in some localities on the ground that few of these stations pay attention to the fire regulations and some could not be made to do so. The state fire marshals are being urged to take action gainst offenders and some may be put out of business.

EASTERN GASOLINE IS WEAKER DESPITE HEAVY CONSUMPTION

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 20.—The eastern refined oil markets were generally quiet during the past week, with the exception of the Pennsylvania district, where gasoline tankwagon prices were reduced. There was an undercurrent of mistrust, however, with regard to present price levels, and in some quarters it was openly predicted that gasoline would go lower. It was pointed out that there has been no apparent improvement in the statistical position of the oil industry since the price reductions went into effect in March. Competitive conditions throughout the East seem as unfavorable as ever. California oil is more of a factor in the eastern markets now than a month or two ago. Whatever curtailment there may have been in the refining industry does not seem to be reflected in refinery prices or in the jobbing or retail ends of the gasoline business.

U. S. Motor gasoline at Bayonne in tank car lots continues to be quoted at 9 cents. It is stated, however, that some refiners in the East are again offering it at 8¾. One concern, which two weeks ago was asking 9½ cents, has come down to 9 again.

Consumption of gasoline is heavy, but not so great as to be reflected in any improvement in prices. The weather has been fair, but unusually cool. In fact since March the weather has been generally cooler than normal, and there has been more than an average amount of rain.

Kerosene Lower

The kerosene market is weak. At Atlantic Coast refineries water white is bringing 7 cents, a reduction of one-half cent. Stocks are still considered top-heavy, and competition is keen at some of the eastern ports. Imported prime white kerosene is being sold at some of them. At Baltimore the tankwagon price is 10 cents, or 5 cents below the normal market.

Gas and Fuel Oil

The gas oil and fuel oil markets have a heavy tone. Twenty-eight gravity plus gas oil is 5½ cents a gallon in tank cars at Bayonne. Diesel oil is available at $2.20 a barrel to the shipping trade, lighterage extra. Bunker fuel oil continues to be quoted at $1.65. Downward revisions in prices of these products are expected in some quarters.

California fuel oil dominates the market for fuel oil at present. About half the supply now being sold on the Atlantic Coast is from California. Freight rates are lower in this trade, which is one factor enccuraging the shipping of California oil east. California fuel oil can be delivered at about $1.60, based on present rates. Formerly it could not be put down at Atlantic ports for less than $1.80.

Lubricating Oils

The domestic lubricating oil market holds fairly steady, although it is somewhat inactive. Twenty-five gravity pale paraffin is now held at 12 cents a gallon in bulk at refinery, against 11¾ early in the week. Other grades are unchanged.

Paraffin Wax

The wax market is also inactive, and prices are generally unchanged. A movement was said to be under way on the part of some interests to bolster prices as a "feeler" to learn the disposition of buyers, but it is not believed the market has yet proved itself capable of definite improvement. Stocks are still large and until this condition is corrected, it is expected the market will continue to be in the hands of the buyers.

Petrolatum

Petrolatum prices continue unchanged with activity reported in lily white and snow. Dark green, amber, extra amber and cream continue dull.

Export Market

The Standard Oil Co. reduced export gasoline in cases one-half cent to 24.40 a gallon. It was only a short time ago that the company advanced the price a half cent, and the present cut has come as somewhat of a surprise.

After a period of considerable activity the export market seems to have quieted down again, with shipments of most products below normal. The bulk movement is particularly quiet.

There was a better movement of kerosene in cases, as a result of a big consignment to the Orient. The total shipments in cases for the week amounted to 2,768,500 gallons.

Lubricating oil exports continue to lag. During the week concessions were made in export prices, covering cylinder stock and bright stock. Six hundred steam refined was cut from 18 to 17 cents a gallon (quotations in barrels), 635 steam refined from 20 to 19, 650 steam refined from 22 to 21 and 600 Pennsylvania flash from 26 to 25. Light 135 bright stock was reduced from 42 to 41 and dark from 40 to 39.

Lubricating grease exports during the past week were large, amounting to 1,257,750 pounds. Petroleum asphalt exports totaled 575 tons.

The following table shows principal exports of petroleum and petroleum products from New York during the last three weeks, (all figures in gallons unless otherwise noted):

	Week ended—		
	June 15	June 8	June 1
Gasoline:			
Bulk		2,515,000	
Cases	703,990	645,700	1,518,750
Kerosene:			
Bulk		1,194,700	
Cases	2,768,500	565,930	1,433,840
Fuel oil:			
Bulk		904,772	
Lubricating oil:			
Bulk		2,697,190	
Barrels	644,300	1,142,350	404,300
Cases	179,400	95,980	195,540
Lubricating grease:			
Barrels (Lbs.)	1,257,750	181,925	
Paraffin wax:			
Bags (Lbs.)	330,000	308,000	640,640
Barrels (Lbs.)		408,025	181,450
Petroleum asphalt:			
Barrels (Lbs.)	575	10,644	200

The foregoing figures include all shipments of 500 bbls, 1,000 cases, or over.

Oil Receipts

Estimated receipts of crude and refined oil at Atlantic Coast ports during the week June 18, were 3,559,000 bbls., an average of 509,000 bbls. a day, compared with a total of 5,194,000 bbls., or 742,600 bbls. daily, for the week ended June 11.

Receipts from the Gulf Coast totaled 2,505,000 bbls., a daily average of 358,000 bbls. Receipts from California were 466,000 bbls., or 67,000 bbls. daily.

Imports for the week aggregated 588,000 bbls., a daily average of 84,000 bbls. Of this total, Mexico accounted for 356,000 bbls., a daily average of 51,000 bbls. South America contributed 232,000 bbls., or 33,000 bbls. daily.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports for the last three weeks; also monthly record for the last twelve months (figures in barrels):

	Week ended—		
	June 15	June 8	June 1
Gulf Coast	358,000	392,000	362,000
Pacific Coast	67,000	183,000	10,000
Mexico	51,000	91,000	131,000
South America	33,000	76,000	69,000
Total	509,000	742,000	572,000

Daily Averages by Months

1927	Gulf	Pacific	Mex.	S. Am.	Total
May	332,000	58,000	91,000	53,000	534,000
April	388,000	93,000	69,000	61,000	611,000
March	345,000	103,000	36,000	81,000	565,000
Feb.	379,000	89,000	40,000	48,000	556,000
Jan.	362,000	73,000	49,000	61,000	545,000
1926:					
Dec.	363,000	57,000	49,000	61,000	530,000
Nov.	335,000	62,000	56,000	40,000	403,000
Oct.	270,000	71,000	61,000	43,000	445,000
Sep.	299,000	98,000	63,000	58,000	518,000
Aug.	320,000	61,000	71,000	46,000	498,000
July	360,000	66,000	115,000	36,000	577,000
June	396,000	104,000	117,000	18,000	635,000

The foregoing figures are based on the carrying capacity of incoming oil-laden tankers.

Tanker Market

The oil tanker charter market has been active with rates continuing to decline.

New fixtures include the following:

Tanker Stelvio, June-July loading, Black Sea to French Atlantic, 3,300 tons, gasoline, 37s. per ton.

Tanker W. L. Steed, San Pedro to north Atlantic, crude oil, 82½ cents a barrel, prompt loading.

Tanker Sabine Sun, crude oil, June loading, Gulf to Philadelphia, 31 cents.

Tanker Neptune (Br.), 8,000 tons gasoline and kerosene, June-July loading, Black Sea to United Kingdom-Continent, 27s. 6d.

ATLANTIC RECEIPTS DECLINE DURING MAY

By N. O. Fanning

Room 629, No. 101 Park Avenue New, York The Oil and Gas Journal

NEW YORK, June 18.—Receipts of crude and refined oil at Atlantic ports by tanker during May are estimated at 16,575,000 bbls., a daily average of 534,000 bbls., compared with 18,477,000 bbls., or 611,000 bbls. daily, in April, and 16,183,000 bbls., a daily average of 523,000 bbls. in May, 1926.

The decline in receipts in May compared with April is attributed to a dropping off of shipments from the Gulf and Pacific Coasts. Imports in May show a substantial increase over those for April.

May receipts from Texas City show a substantial gain over those of a year ago. This year they totaled 4,646,000 bbls., a daily average of 150,000 bbls. In May, 1926, they aggregated 3,478,000 bbls., a daily average of 113,000 bbls.

The following table shows total and daily average receipts for May, 1927, April, 1927, and May, 1926 (in barrels):

From—	May, 1927	April, 1927	May, 1926
Baton Rouge and New Orleans	1,222,000	1,000,000	1,913,000
Port Arthur, Sabine and Beaumont	4,461,000	5,367,000	4,414,000
Texas City, Houston and Galveston	4,646,000	5,367,000	3,478,000
Gulf Coast	10,329,000	11,734,000	9,805,000
Pacific Coast	1,801,000	2,774,000	2,062,000
Mexico	2,793,000	2,087,000	3,543,000
South America	1,652,000	1,882,000	773,000
Total	16,575,000	18,477,000	16,183,000
Daily Averages			
Baton Rouge and New Orleans	38,000	32,000	62,000
Port Arthur, Sabine and Beaumont	144,000	178,000	143,000
Texas City, Houston and Galveston	150,000	175,000	113,000
Gulf Coast	342,000	388,000	318,000
Pacific Coast	58,000	93,000	66,000
Mexico	91,000	69,000	114,000
South America	53,000	61,000	25,000
Total	534,000	611,000	523,000

The Standard Oil Co. of New Jersey receives more from Texas City than any other division; in fact, it is estimated that about 70 per cent of its water receipts are from that port.

The Gulf Refining Co., The Texas Company and Standard Oil Co. of New York receive most of their oil from the Port Arthur district.

Largest receivers of California oil are Standard Oil Co. of New Jersey and Standard Oil Co. of New York.

ONTARIO OIL MEN MEET

Recently a company was incorporated at Windsor under the title, Ausable River Oil & Gas Co., with a view to developing oil fields about Arkona, 20 miles east of Sarnia. A meeting of oil men was held at Petrolia to discuss prospects of reviving the oil flow at Sarnia and Petrolia, at which it was claimed that only about 25 per cent of the oil in the field had been obtained—24,000,000 or 25,000,000 bbls., whereas 50 to 90 per cent is available with a good mining process.

SYNTHETIC BENZINE

The synthetic benzine produced by the Badische Anilin-und Soda Fabrik A. G. of Lurwigshafen has not yet been marketed in the Coblenz district, and in the opinion of a local agent is not likely to become a serious competitor against American brands.

Factors in Liquid Phase Cracking

Determine Yields With Controlled Conditions of Temperature, Pressure and Time. Explain Chemical Action

By A. Sachanen (A. Sachanov) and M. Tilitscheyew*
(Reports from the Central Laboratory of the Grosneft, Grozny.)

By cracking in the narrower sense of the word is meant the decomposition of petroleums and petroleum products at temperatures of 500-550 degrees Centigrade (932-1,022 degrees Fahrenheit), while pyrogenetic decomposition is peculiar to higher temperatures (650 degrees Centigrade and higher — 1,202 degrees Fahrenheit). The moderate formation of gases and coke (total of 4-12 per cent)

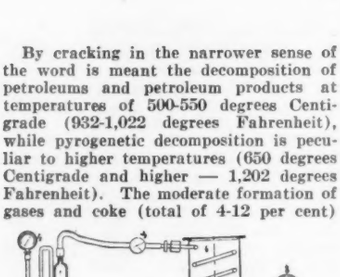


Figure 1. Cracking apparatus.

is very characteristic of the cracking process. Cracked gasolines are distinguished from ordinary straightrun gasolines by a higher content of unsaturated hydrocarbons (up to 30-50 per cent). Pyrogenetic decomposition results in intense gas and coke formation (total of 50-60 per cent). Gasolines resulting from the pyrogenetic decomposition of petroleum products contain, besides olefins, also rather large quantities of aromatic hydrocarbons, while in the higher fractions naphthalene, anthracene, etc., are found. It is to be noted that the higher fractions of the cracked products contain no condensed aromatic hydrocarbons.

The decomposition of coal is of the same nature and yields a primary tar or gas tar depending on the temperature of the decomposition. The primary tar possesses the properties of cracked products while gas tar is similar to the products of pyrogenetic decomposition. The coal tars are distinguished from the cracked and decomposition products of petroleum only by their content of phenols. Although the cracking process is of great economic importance there have been but few systematic investigations on the physical conditions of the process.[1] The object of the present investigation is to determine the time, pressure, and temperature conditions more accurately for the liquid phase cracking process.

*Reports from the Central Laboratory of the Grosneft, Grosny. Translated by Albert Parsons Sachs from Petroleum Zeitschrift.

Description of Apparatus

The cracking apparatus used by us (Figure 1) consists of the vessel 1 (contents 2½ liters) with the closed thermometer tube 2. The cover with the dephlegmator 3 is fastened hermetically by means of bolts. The cracking process proceeds when the valve 5 is closed until the temperature and pressure attain certain desired values. Then the temperature and the pressure are regulated by heating and by opening the valve 5. The cracked distillates then pass through the condenser 6 into the vessel 7 and the gases pass through valve 9 into the air to to a gasometer.

At the end of the run the cracked distillate (in 7) and the residue (in 1) were distilled so that three fractions were obtained: cracked gasoline up to 200 degrees Centigrade (392-572 degrees Fahrenheit), cracked kerosene from 200-300 degrees Centigrade (392-572 degrees Fahrenheit), and cracked residue above 300 degrees Centigrade (572 degrees Fahrenheit). The content of resins (resin acid number), asphaltenes (with petroleum ether) and coke were determined by the usual methods.

As the cracking temperature measured was reached after a certain period of preliminary heating and as the cooling of the equipment required a certain period of time, necessary correction factors were introduced. If, for instance, the cracking at 425 degrees Centigrade (797 degrees Fahrenheit) for a period of 30 minutes was investigated the preheating period from 375 degrees to 425 degrees (707-797 degrees Fahrenheit) was 15 minutes and the cooling from 425 to 375 degrees Centigrade (797-707 degrees Fahrenheit) took 8 minutes. The corrections were calculated in the following manner: As the average temperature of the preheating and cooling (from 375 degrees Centigrade up and down to 375 degrees Centigrade) (707 and 797 degrees Fahrenheit) is 400 degrees Centigrade (752 degrees Fahrenheit) and the time is 23 minutes, we must take into account besides the cracking at 425 degrees Centigrade (797 degrees Fahrenheit) the cracking occurring at 400 degrees Centigrade (752 degrees Fahrenheit) in a period of 23 minutes. As is shown below the velocity of cracking at 425 degrees Centigrade (797 degrees Fahrenheit) is about six times greater than at 400 degrees Centigrade (752 degrees Fahrenheit); thus the time of cracking at 425 degrees Centigrade (797 degrees Fahrenheit) is increased by 23÷6 or about 4 minutes which allows for the preheating and cooling period which must be added to the time of the principal cracking process. In this way the correct time of cracking at 425 degrees Centigrade (797 degrees Fahrenheit) would be calculated as the sum of 30 and 4 or 34 minutes. The time of preheating and cooling below 375 degrees Centigrade (707 degrees Fahrenheit) is neglected as cracking has no measurable velocity at these temperatures.

[1]Compare for example Rittman, Manufacture of Gasoline from Petroleum, Washington, 1916; Dean & Jacobs, Production of Gasoline by Cracking of Heavier Oils, Bureau of Mines, Technical Paper 258, Washington, 1922, and especially Leslie & Pott-hoff, Ind. Eng. Chem., 1926, page 776.

Cracking Paraffin Oil

The cracking of a paraffin oil obtained by distillation of a high paraffin petroleum (from Gosny) was investigated in detail. The properties of this paraffin oil are the following: Specific gravity at 15 degrees Centigrade (59 degrees Fahrenheit) = 0.883, E_{50} = 1.96, resin acid number 5 per cent, setting point + 31 degrees Centigrade (+86 degrees Fahrenheit), paraffin content 10.5 per cent, initial boiling point 180 degrees Centigrade (356 degrees Fahrenheit), distillate to 200 degrees Centigrade (392 degrees Fahrenheit) 0.3 per cent, and distillate to 300 degrees Centigrade (572 degrees Fahrenheit) 3.3 per cent. Distillation of this paraffin oil in vacuum at 4 m.m. pressure gave the following fractions:

Temperature—	%	Specific Gravity at 15°C. (59°F.)
74-190°C. (165-374°F.)	15.5	0.855
190-220°C. (374-428°F.)	21.6	0.873
220-250°C. (428-482°F.)	26.8	0.891
250-280°C. (482-536°F.)	21.2	0.897
280-310°C. (536-590°F.)	8.8	0.906
Residue and loss	6.1	.....

The results of the cracking of this paraffin oil are given in Table 1. As the table shows, both light and heavy decomposition products—gasoline and kerosene—are produced in approximately equal quantities by the cracking process. Under the same conditions of temperature and pressure the yield of cracked gasoline or the total yield of gasoline and kerosene increases with the time of the run up to a certain limit (compare for instance experiments 7, 8, 9, 12, 13 or 15, 18, 20, 21.) It is important to determine that this limiting yield is independent of the temperature. The limiting yield of cracked gasoline for the paraffin oil investigated is 38-39 per cent and the total

TABLE 1—CRACKIN G OF PARAFFIN OIL

	Conditions				Yield of						Cracked Gasoline to 200°C. or 392°F.			Cracked Kerosene 200-300°C. or 392-572°F.			Cracked Residue Above 300°C. or 572°F.				
No.	Temp. °C.	Temp. °F.	Press. in Atm.	Time	Gasoline 200°C. or 392°F.	Kero. or 200-300°C. or 392-572°F.	Residue* Above or 300°C. or 572°F.	Asphaltenes	Coke	Gas and Loss	Quantity Cracked Dist'late in Grms.	Sp. Gr. at 15°C.or 59°F.	Acid Resin No. in Pct.	Refractive Index	Sp. Gr. at 15°C. 59°F.	Acid Resin No. in Pct.	Refractive Index	Sp. Gr. at 15°C.or 59°F.	E 50	Setting Point in °F.	Acid Resin No. in Pct.	No.
1	375	707	3	9 hrs.	4.2	13.8	78.2	0.00	0.00	4.1	26	0.749	....	1.4225	0.828	8	1.4638	0.888	2.25	+25	8	1
2	400	752	5	3 hrs.	9.8	17.0	67.4	0.00	0.00	4.8	99	0.737	....	1.4182	0.829	9	1.4634	0.900	2.11	+22	20	2
3	400	752	6	6 hrs.	30.1	26.4	29.1	0.70	0.33	40.8	429	0.749	....	1.4244	0.840	9	1.4713	0.963	4.30	+ 6.5	41	3
4	400	752	15	6 hrs.	19.6	26.5	44.9	0.51	0.00	7.9	67	0.753	....	1.4251	0.837	8	1.4694	0.931	2.77	+10	18	4
5	400	752	5	9 hrs.	40.2	15.5	13.6	0.80	1.37	23.8†	591	0.748	....	1.4244	0.840	6	1.4649	1.070	2.42	+ 2	5	5
6	400	752	5	9 hrs.	30.2	27.1	19.2	0.56	2.30	18.6†	472	0.745	....	1.4251	0.835	...	1.4699	1.004	3.97	— 9	58	6
7	425	797	5	34 min.	14.0	17.0	64.6	0.00	0.00	3.0	198	0.744	....	1.4244	0.829	...	.....	0.901	2.32	+16	8	7
8	425	797	5	51 min.	21.0	16.5	51.5	0.00	0.00	8.0	304	0.748	....	1.4248	0.830	10	1.4659	0.912	2.37	+14	20	8
9	425	797	5	63 min.	28.6	23.5	38.2	0.46	0.00	6.8	511	0.750	....	1.4261	0.831	10	1.4668	0.932	2.42	+ 5	37	9
10	425	797	10	63 min.	21.5	25.4	42.4	0.30	0.00	7.2	257	0.741	....	1.4214	0.838	10	1.4700	0.940	2.80	+12	15	10
11	425	797	15	63 min.	20.0	24.2	45.4	0.32	0.00	8.7	114	0.746	....	1.4222	0.837	10	1.4695	0.928	2.74	+10	20	11
12	425	797	5	94 min.	34.2	29.0	21.6	1.40	0.62	9.0	666	0.748	....	1.4259	0.831	12	1.4666	1.040	9.39	—10	74	12
13	425	797	5	5 hrs.	38.0	25.0	8.1	0.29	8.59	14.4	692	0.750	14.5	1.4253	0.830	10	1.4673	.....	....	....	18	13
14	425	797	10	62 min.	17.5	22.7	48.7	0.23	0.00	7.2	172	0.740	....	1.4199	0.832	9	1.4670	0.921	2.57	+18	20	14
15	450	842	12	8 min.	18.0	23.0	52.5	1.10	0.07	4.9	289	0.742	....	1.4216	0.832	12	1.4671	0.911	2.35	+15	8	15
16	450	842	10	9 min.	26.1	27.2	37.3	0.09	0.32	6.8	472	0.746	13.0	1.4244	0.834	10	1.4679	0.942	2.63	0	27	16
17	450	842	5	13 min.	26.0	32.0	32.1	0.46	0.71	6.0	754	0.740	....	1.4219	0.830	10	1.4663	0.934	7.07	— 4	29	17
18	450	842	10	12 min.	30.0	31.0	29.2	0.89	0.27	6.1	643	0.742	13.0	1.4237	0.833	10	1.4677	0.951	3.68	— 2	72	18
19	450	842	15	13 min.	28.9	21.3	37.4	0.38	0.11	8.7	374	0.743	....	1.4223	0.838	8	1.4698	0.944	3.17	+10	28	19
20	450	842	10	20 min.	34.0	30.0	18.9	2.38	1.40	10.6	678	0.746	....	1.4247	0.834	9	1.4688	0.983	2.50	— 6	69	20
21	450	842	10	36 min.	37.5	29.7	14.1	1.99	3.47	11.3	694	0.749	13.0	1.4249	0.835	10	1.4709	1.029	3.35‡	— 4‡	77	21
22	450	842	5	66 min.	29.0	34.0	19.2	1.13	3.73	11.2	762	0.743	11.0	1.4249	0.831	8	1.4672	0.875	1.25	1	16	22
23	475	887	15	4 min.	27.7	30.3	22.6	1.10	1.43	10.5	643	0.746	....	1.4230	0.833	10	1.4683	0.951	2.16	•18	96	23
24	475	887	15	34 min.	38.8	26.6	8.2	0.35	0.05	13.4	720	0.751	12.0	1.4268	0.837	8	1.4776	0.984	....	3	17	24

*In this column the amount of cracking residue less asphaltenes and carboids is given.
†Larger losses in these cases are due to the fact that the apparatus was not tight.
‡The residue was freed from coke.

TABLE 2—CRACKING OF VAR IOUS PETROLEUM PRODUCTS

		Conditions				Yield of						Cracked Gasoline to 200°C. or 392°F.			Cracked Kerosene 200-300°C. or 392-572°F.			Cracked Residue above 300°C. or 572°F.				
No.	Petroleum product—	Temp. ° C.	Temp. ° F.	Pressure in Atm.	Time in Min.	Gasoline (200°C. or 392°F.)	Kerosene (200-300°C. or 392-572°F.)	Residue above 300°C. or 572°F.*	Asphaltenes	Coke	Gas and Loss	Spec. Grav. at 15°C. or 59°F.	Refractive Index	Spec. Grav. at 15°C. or 59°F.	Acid Resin No.	Refractive Index	Spec. Grav. at 15°C. or 59°F.	E_{50}	Setting Point in ° C.	Acid Resin No. in %	No.
25	Paraffin	450	842	10	13	31.2	24.7	31.2	0.00	0.00	8.3	0.720	1.4115	0.782	9	1.4402	0.830	1.80	+35.0	16	25
26	Paraffin	450	842	10	16	40.0	29.2	19.2	0.00	0.00	8.3	0.724	1.4142	0.785	8	1.4422	0.835	1.60	+29.5	8	26
27	Paraffin	450	842	10	32	43.3	34.9	8.2	0.04	0.04	8.2	0.729	1.4154	0.783	8	1.4420	0.830	1.25	+24.6	6	27
28	Paraffin oil refined with fuming H_2SO_4	450	842	10	31	35.7	27.1	6.2	0.08	0.11	26.8	0.745	1.4239	0.826	12.5	1.4628	0.930	1.95	— 6.0	21	28
32	Kerosene	450	842	15	12	4.9	83.5	4.8	0.00	0.00	4.8	0.740	1.4203	0.818	5	1.4586	0.848	1.19	+ 0.5	4	32
33	Kerosene	425	797	15	63	8.7	79.8	2.9	0.00	0.00	8.1	.....	1.4230	.....	4	1.4596	0.824	1.30	.....	15	33
34	Solar oil	450	842	10	12	18.6	43.6	29.5	0.19	0.15	6.3	0.746	1.4250	0.862	12	1.4839	0.915	1.80	—19.0	10	34
35	Spindle oil	450	842	10	12	28.2	30.5	30.6	0.45	0.66	6.3	0.753	1.4282	0.862	14	1.4825	0.997	3.92	—19.0	23	35
36	Machine oil (Spec. grav. 0.904)	450	842	10	12	31.2	24.1	30.0	1.10	0.89	8.6	0.760	1.4312	0.862	14	1.4832	1.019	5.50	—10.0	46	36
37	Cylinder oil (Spec. grav. 0.930)	450	842	10	12	29.5	23.5	23.3	3.21	6.04	10.6	0.754	1.4289	0.850	14	1.4771	0.917	1.30	—16.5	7	37
38	Cylinder oil (Spec. grav. 0.930)	440	...	10	12	25.7	23.5	39.4	1.10	0.17	7.7	0.753	1.4267	0.854	10	1.4782	1.014	18.60	— 2.0	60	38
39	Cylinder oil (Spec. grav. 0.931)	450	842	10	11	30.4	20.5	19.4	1.53	8.04	18.5	0.756	1.4299	0.854	15	1.4797	0.935	1.63	—19.5	10	39

*In this column the amount of cracking residue less asphaltenes and carboids is given.

limiting yield of gasoline and kerosene is about 65 per cent.

A higher yield than 38-39 per cent can be obtained by repeated cracking (recycling) as is done in various modern cracking processes.

The influence of pressure in cracking phenomena is not very great. From experiments 9, 10, 11 or 17, 18, 19, it appears that pressure decreases the yield of cracked gasoline and kerosene. This fact agrees with the behavior of cracked distillates at higher temperatures which produces condensation reactions. These condensation reactions can be avoided in the tube cracking systems now used where the exposure of the oils under conditions of high temperature is very short. The role of pressure in cracking processes consists only in the fact that pressure makes possible the existence of the liquid phase which is the chief requirement for present-day cracking systems.[2]

Importance of Time

The time necessary for the limiting output of cracked product (65 per cent), depends to a very high degree on the temperature of the process. From the abovementioned experiments we obtain the following results.

Temperature of Cracking	Time to Reach Limiting Output of Cracked Products
375°C. (707°F.)	45 hours
400°C. (752°F.)	9 hours
425°C. (797°F.)	1¼ hours
450°C. (842°F.)	12 minutes
475°C. (887°F.)	2 minutes (calculated)
500°C. (932°F.)	20 seconds (calculated)

As these figures show, the velocity of cracking increases five or six fold for every 25 degrees Centigrade (45 degrees Fahrenheit), as is the case with other chemical reactions (which double for each 10 degrees Centigrade) (18 degrees Fahrenheit.)

Together with the decomposition products of cracked gasoline and cracked kerosene condensation products are also formed. As appears from the abovementioned data, the residues from the cracking possesses a higher resin acid number and a very high specific gravity (up to 1.04) which agree with a strong condensation reaction. It should be noted here that the higher fractions of the paraffin oil have a specific gravity of only 0.897-0.906. From experiments 2, 3, 5, or 7, 8, 9, 12 or 15, 18, 20, 21, it follows that the specific gravity of the cracked residues increases with increasing time of cracking. A longer time of cracking causes the formation of asphaltenes and carboids (coke), which may be considered as condensation products.

The reciprocal relationship of the condensed oils, asphaltenes and carboids, become clear from a comparison of experiments 7, 8, 9, 12, 13 or 15, 16, 18, 20, 21. On increasing the time of cracking the resin acid number of the residue decreases while the content of asphaltene and carboids strongly increases. Finally the asphaltenes disappear also and there remains only the very stable carboids (coke.)

Significance of Velocity

The velocity of cracking depends not only on temperature and time but also on the nature of the petroleum cracked. We investigated the cracking of spindle oil distillates (specific gravity 0.904), machine oil distillates (specific gravity 0.916), and cylinder oil distillates (specific gravity 0.930) at 450 degrees Centigrade (842 degrees Fahrenheit), 10 atmospheres pressure and 12 minutes time. The kinetics of this cracking process is the same as for the cracking of the paraffin oil under the same conditions: about 28-31 per cent of cracked gasoline and about 25 per cent of kerosene were found. The formation of asphaltenes and carboids increases with increase in specific gravity of the oil (Table 2.)

In contrast to this the cracking of solar oil (specific gravity 0,883) proceeds one and one-half times to two times as slowly as the paraffin oil experimented with. Kerosene (specific gravity 0.821, decomposes still more slowly under these conditions (12 minutes 450 degrees Centigrade—842 degrees Fahrenheit—and 15 atmospheres) and yields only 4.9 per cent gasoline. In cracking a light solar oil and kerosene we were unable to observe any formation of asphaltenes and carboids.

The above results lead us to the conclusion that lighter decomposition products (gasoline and kerosene) and heavier condensation products are formed from different components in the cracking process.

To clarify these phenomena the cracking of paraffin (melting point 52-54 degrees Centigrade—126-129 degrees Fahrenheit) and of paraffin oil which was purified with 80 per cent of fuming sulphuric acid (specific gravity 0.852, E_{20} =1.96 and setting point 32½ degrees Centigrade—90 degrees Fahrenheit), was investigated. The results of this cracking are also given in Table 2.

As appears from experiments 25 to 27, cracking of the paraffin does not result in formation of coke. The specific gravity of the cracked residue remains unaltered and is independent of the time of the cracking. The conclusion is thus to be drawn that cracking of paraffin hydrocarbons does not result in condensation reactions.

On cracking the purified paraffin oil the condensation reactions appear to only a very slight extent. As fuming sulphuric acid removes chiefly aromatic hydrocarbons, it follows that the condensation reactions and coke formation (as the final stage in these reactions) proceed principally at the expense of the aromatic hydrocarbons. This conclusion agrees quite satisfactory with other data. Heavy petroleums with a high content of aromatic hydrocarbons result in strong coke formation on cracking.

The chemical composition of cracked gasoline was investigated by G. Egloff's method.[3] This method gives an approximate determination of paraffin hydrocarbons, naphthenes, olefins and aromatic hydrocarbons in gasolines.

These determinations show the strong influence of pressure on the percentage of olefins as has been accepted by other investigators. We present the composition of the cracked gasolines obtained from the paraffin oil investigated by us in Table 3.

TABLE 3

Experiment	Cracking Conditions: Temp. °C.	Time	Pressure Atm.	Composition of Gasoline: Paraffins %	Naphthenes %	Arom. %	Olefines %
3	400	6 h.	5	60.7	7.5	16.3	15.5
4	400	6 h.	15	...	..	14.5	9.0
9	425	1 h. 2 min.	5	49.6	4.5	19.6	25.5
10	425	1 h. 2 min.	10	...	..	...	17.0
11	425	1 h. 2 min.	15	...	..	14.3	7.0

Increase in pressure diminishes the amount of olefins in cracked gasolines. The percentage of naphthenes in the cracked gasolines investigated by us is fairly small, about 4-7 per cent. It is to be noted that cracking of high paraffin petroleums produces gasolines with the lowest content of naphthenes.

Cracked gasolines from paraffin show complete absence of naphthenes (critical solution temperature in aniline after treatment with fuming sulphuric acid is 70.8 degrees Centigrade (159.4 degrees Fahrenheit. These results lead to the conclusion that contrary to the opinion of many investigators[4] ring formation from the olefins and conversion into naphthenes play only an unimportant role under the conditions of cracking.

It is interesting to compare the chemical composition of the cracked gasolines with the ordinary straightrun gasolines (from Grosny) as given in Table 4.

TABLE 4

Gasoline from—	Contains*: Paraffins %	Naphthenes %	Arom. %
High paraffin petroleum†	71.3	21.7	7.0
Paraffin-free petroleum..	58.6	33.9	7.5

*No olefins.

†On Grosny petroleum, see A. Sachanen, Petroleum 1926, p. 1,240.

As appears from the above, cracked gasolines are distinguished from straight run gasolines in three respects: by their straightrun gasolines, by their higher content of aromatic hydrocarbons, and by their low content of naphthenes.

In conclusion we give the distillation figures (Engler method) of cracked gasoline from the paraffin oil:

Specific gravity at 15°C. (59°F.)	0.742	0.746
First drop	56°C. (133°F.)	62°C. (126°F.)
To 100°C. (212°F.)	21%	22%
To 160°C.(320°F.)	70%	72%
To 200°C. (392°F.)	89%	92%

[2]Compare for instance Cross, A Handbook of Petroleum, 1924, pages 289, 314.

[3]Ind. Eng. Chemistry, vol. 18, page 354 (1926).

[4]Compare B. Leslie, Motor Fuels, 1923, page 295.

PETROLEUM EXPOSITION PLANS GOING FORWARD

(Continued from Page 34)

venting any rival attractions in the immediate neighborhood. The series of royalty parades and balls down town and the theatrical attractions in the name of the exposition were omitted from all calculations.

This new policy, Mr. Gibbons said, was adopted because the directors found a situation demanding close attention to inventions and developments and every facility for inventors and makers of tools and appliances to reach the purchasers. The last exposition held was in 1925 and it was sensed by the board that hundreds of inventions have been developed since that time and that an ocular demonstration will forward the adoption of those that are meritorious and practical. The conservation end of the business is getting close attention.

Endorsed by A. P. I. Head

Following the announced determination to make the 1927 exposition scientific, technical, practical and educative, came the following endorsement from President E. W. Clark of the American Petroleum Institute:

"I am very much interested in the International Petroleum Exposition to be held in Tulsa this fall. The condition of the oil industry at this time challenges the most careful study of the latest methods and devices which will enable oil men to increase their efficiency, eliminate waste and earn a profit.

"The exposition provides the workshop and manual training department for the exhibition and demonstration of equipment, which has been developed by the standardization division of the Institute, and the field men who attend can see the actual material.

"The great advancement in methods and the innumerable new pieces of equipment perfected in the industry during the past two years makes it wholly desirable that the oil men, manufacturers and supply men have a central exhibition for the inspection and demonstration of these new methods.

"I have never attended the Petroleum Exposition before because other duties and responsibilities have prevented, but it is my intention to visit the exposition this fall and take advantage of the unusual opportunity to acquaint myself with the wonderful developments that have taken place in the past 24 months."

President W. G. Skelly and the other directors are devoting close attention to the exposition. They agreed upon the necessity for the show this year as aid to invention and adaptation. They changed the policy so as to favor exhibitors and provided for service connections without charge to exhibitors. They decided upon removing the exposition from a crowded district to a large one and put on a rather ambitious building program. The erection of buildings is well started and the grounds are being shaped up generally.

ROCKY MOUNTAIN AREA

(Continued from Page 48)

dam to a connection at Parkerton in the Big Muddy Field, with the present high-voltage line now in operation there from Casper. Besides its importance to the oil operator in this part of the North Platte Valley, the line will also furnish current for Orrin Junction, Glendo, Douglas, Careyhurst and other small towns along the route.

Work on the construction is to start within a week or so, according to the officials of the Mountain States Power Co. and the surveying crews are winding up the surveys now. The cost of the line is estimated at $250,000.

Pipe Lines to Iles Dome

The Midwest Refining Co. is considering the laying of a 4 or 6-inch pipe line from the Iles Dome in Moffat County, Colorado, to Craig. This line will take care of the new production found on the Iles Dome by the Midwest Refining Co. in the Nugget sand. This is a rather heavy oil and while The Texas Company has a line in operation from the Moffat Field, a few miles north of Iles Dome, the Midwest Refining Co. considers it would be a heavy strain on that 4-inch line to make it carry the oil production of Iles Dome when the latter field comes into full production and development.

Hardships in Wildcats

The General Land Offices in Wyoming that have been functioning from the pioneer days have been closed and the records and other papers sent to the land office at Denver.

The moving of the land offices to Denver has entailed a heavy travel expense on the oil industry besides slowing up the work of obtaining permits by the wildcatters. When the oil market does get back to normal the need of a land office nearer than Denver to the main operating become urgent. When a wildcatter finds districts of Montana and Wyoming will indications of a structure that he wishes to drill, he will object strongly to spending several days under heavy expense, waiting for a lease or permit and at the same time leaving the property open for anyone who may read his notices to jump his claim and wire some friend to place an adverse application in the land office at Denver which would throw the whole matter into litigation and delay the wildcat operations for an indefinite time.

Under the present regulations of obtaining permits on government land a notice must be posted on a prominent point and thus proclaim to the world that some certain oil man wishes to drill there and considers same as worthy of expending much money for exploration. Any one can file an application covering the same land and thereby delay and hinder the real operator until he throws up the land in disgust or pays for the withdrawal of the opposing claim.

Runs from the Fields

Salt Creek	41,040
Teapot	820
Big Muddy	2,800
Grass Creek	2,690
Elk Basin	1,000
Greybull	15
Rock River	2,760
Rex Lake	100
Lance Creek	670
LaBarge	60
Poison Spider	1,070
Osage	370
Hamilton Dome	1,590
Mule Creek	980
Lander	60
Byron	80
Lost Soldier	3,340
Ferris	20
Simpson Ridge	90
Cat Creek	2,220
Lake Basin	190
Sunburst	13,000
Iles	460
Walden	91
Florence	817
Moffat	1,672
Fort Collins	3,268
Tow Creek	901
Boulder	25
Rangeley	100
Hogback	740
Rattlesnake	617
Table Mesa	*
Artesia	1,700
Total	85,356

*No runs.

BUYS BUENA VISTA OIL

Shell Co. of California has contracted with Honolulu Consolidated Oil Co. for its 8,000 bbls. daily of production in Buena Vista Hills, California. The contract is to run for five years. The oil is from 14 to 33 gravity. The oil was previously taken by Standard Oil of California under a contract just expired. It includes the output of a topping plant.

REFINING AND MARKETING

ST. HELENS COMPANY TO ENTER REFINING

LOS ANGELES, Calif., June 18.—The St. Helens Petroleum Co., Ltd., an English concern which has heretofore confined its activities strictly to production, which recently decided to enter the refining business, has acquired the old plant of the O'Donnell interests at Whittier. This refinery was originally built to handle the production of the O'Donnell-Gillette interests in the Rideout Heights section of the Whittier Field but the project never proved feasible due to the failure to develop sufficient crude oil production to justify operations on a commercial scale.

The St. Helens took possession of this plant a short time ago and the old stills are being torn down for inspection and replacement of any defective parts. Considerable new equipment is being added, including about 25 steel tanks of various capacities. Refining operations are expected to get under way some time within six months and, while the St. Helens has outlined a rather ambitious program, the company will only utilize its Montebello production until general conditions improve.

The new plant acquired at Whittier is advantageously located so far as railroad transportation facilities are concerned and, since it is only about 5 miles removed from the company's production at Montebello, it will be but a small matter to lay this connecting link. Actual pipe line construction has not yet got under way but present plans call for a combination 4 and 6-inch line with work scheduled to start within two weeks. The St. Helens has been developing its oil holdings in a conservative manner and hence has sufficient undrilled acreage to meet further needs for some time.

PANHANDLE JOINS I. O. M. A.

CHICAGO, June 18.—The Independent Oil Men of America announces that the Panhandle Refining Co., of Wichita Falls, Tex., has applied for refinery membership in the organization, this being the third application reported. The company operates 5 bulk and 25 service stations in Texas and has applied for membership for these stations as well. Recently the Kanotex Refining Co. of Oklahoma City, Okla., and the Vickers Petroleum Co., of Wichita, Kans., joined the association. The membership in the past has been confined to independent jobbing interests.

ALBERTA STATIONS

CHATHAM, Ontario, June 18.—Through the purchase recently of the plant of the Beaver Oil & Refining Co. at Calgary, Arctic Refineries, Ltd., of Lethbridge, Alberta, a subsidiary of the International Refining Co. of Montana, is extending its organization in southern Alberta. In addition to the Calgary plant, distributing stations were acquired at Vulcan and Stettler. There is a possibility the existing Beaver plant at Calgary may be developed into a complete refinery.

OLNEY PLANT OPERATING

In the monthly summary of Mid-Continent refinery operations, June 9 issue, it was incorrectly reported that the refinery of the Olney Oil & Refining Co., located at Olney, Tex., was shut down on June 1. Charles T. Wolverton, Jr., manager of the company, advises that the plant was not shut down on June 1, and that the refinery has been operated for the past 3½ years and has never been shut down except for short periods to make necessary repairs and improvements.

APPOINT TWO NEW DIRECTORS IN CHARGE OF REFINERY SALES

The appointment of C. L. Mayhall and C. H. Dresser as directors in charge of sales was announced during the past week by the Anderson-Prichard Oil Corp. of Oklahoma City. The appointments are to take care of an expansion program in the refining and marketing facilities of the corporation.

Mr. Mayhall, who will have charge of refined oil sales, recently resigned as vice president and general manager of the Imperial Refining Co., with which he was connected for a period of 10 years. His early oil experience was obtained with the Ohio Cities Gas Co., now known as the Pure Oil Co. Mr. Mayhall is widely known in Mid-Continent refining and marketing circles.

—Photo by Marquis.
C. H. Dresser

C. L. Mayhall

Mr. Dresser, who has been sales manager of the Anderson-Prichard Oil Corp. for several years, now has charge of the industrial naphtha sales. The company for sometime has been specializing in the manufacture of naphthas, including rubber solvents, cleaners' naphthas and mineral spirits. Mr. Dresser has made a thorough study of the needs of certain industries and several new specification products have been manufactured at the corporation's refineries to supply new demands.

At present the corporation's refineries at Wichita Falls, Tex., and Cyril, Okla., are manufacturing special naphthas exclusively. The third refinery, located at Colorado, Tex., and which is operated under the name of Col-Tex Refining Co., manufactures gasoline and other light oil products. The three refineries at present are running approximately 10,000 bbls. of crude daily.

Officers of the corporation are L. H. Prichard, president; J. Steve Anderson, vice president, and P. H. Anderson, secretary and treasurer.

STANDARD OF INDIANA HELPS GUIDE AVIATORS

CHICAGO, June 18.—The Standard Oil Co. of Indiana is completing its program of having the names of all towns painted on the top of its stations. This is being done to aid aviators. The company will shortly have names on stations located in 3,600 towns scattered in 11 states of the Middle West.

The Standard of Indiana recently has been doing considerable experimenting in the use of planes for company business. A large plane has been purchased for company executives.

Allan Jackson, a vice president of the company, in a letter made public by Arthur Brisbane, newspaper syndicate writer, stated that this three-motor plane traveling 85 miles an hour and carrying eight passengers and two pilots consumed only 33 gallons of gasoline per hour.

MUST STOP PRICE CUTTING

CHICAGO, June 18.—Attorney General Gilliom of Indianapolis has taken a hand in the price war at Gary, Hammond and neighboring towns and warned the operators to return their prices to normal immediately. The trouble was started by local distributors cutting the station price as much as 3 cents in several cases. The Standard reduced its prices to 14 cents tank wagon and 16 cents service station, a reduction of 3 cents, and the other large companies followed suit. These prices include a 3-cent gasoline tax. Price cutting continued and some sales are reported as low as 12 cents tank wagon including tax. The price cutters state the action was forced on the independent distributor by the fact that it is only a short distance to the Illinois line where motorists could buy their gasoline at a lower price because Illinois has no gasoline tax. Just what the attorney general proposes to do is in doubt and his office has made no statement of what the further procedure would be.

ONLY TWO STATES LEFT

On July 1, New Jersey will institute a 2-cent gasoline tax and on August 1 Illinois will probably make a similar tax effective. The tax bill has been passed in the two houses of the Illinois Legislature and it is understood to be favored by the governor so passage of the bill is assured. This leaves only Massachusetts and New York without gasoline taxes.

California Gasoline Association Elects Ratcliffe President

LOS ANGELES, Calif., June 18.—George L. Ratcliffe, manager of the gas department of the General Petroleum Corp., has been elected president of the California Natural Gasoline Association. Mr. Ratcliffe, in May, was elected a vice president of the Association of Natural Gasoline Manufacturers at the annual meeting held in Tulsa, Okla.

Mr. Ratcliffe is widely known throughout the industry as he has operated in practically all fields. After graduating from the Carnegie Institute of Technology he was employed by the Peoples Natural Gas Co. in eastern fields. Later he became connected with the Texas Pacific Coal & Oil Co., operating in the Mid-Continent fields. He was a vice president of the company in charge of refining, pipe lines and natural gasoline operations when he resigned in 1925 to take his present position with the General Petroleum Corp. He has been active in association work and was one of the organizers of the California Natural Gasoline Association.

George L. Ratcliffe

I. B. Funk, petroleum engineer connected with the Newton Process Co., was elected vice president of the association. R. E. Beckley, engineer of the Standard Gasoline Co., H. W. Parmalee, manager of the gas department of the California Gasoline Co., and J. S. Watson, gas engineer of the Shell Co. of California, were elected to the board of directors. The election of Mr. Funk to the vice presidency left a vacancy on the board of directors which will be filled by the board at the next meeting.

Mr. Ratcliffe succeeds Paul Barton to whom much credit is given for the success of the association's activities. While no official announcement has been made it is understood that the association will shortly employ an active secretary and it is thought that Mr. Barton will be offered this position. A report at the meeting showed the association to be in excellent financial condition.

INCREASING STATIONS

CHICAGO, June 18.—The Indian Refining Co. is increasing the number of its service stations. New stations have been very recently opened at Detroit, Mich., Louisville and Owensboro, Ky.

Brief Items for Plant Operators

SKELLY STARTS PLANT IN CARSON COUNTY

The Skelly Oil Co. has started operating its new natural gasoline plant located in Block 88 of the Schafer ranch lease in Carson County, Texas. The plant has an initial capacity of 20,000 gallons daily and this will be doubled in the near future. The company has a 12,500-acre lease on which the plant is located. It is expected that additional natural gasoline plant capacity will be needed as the crude oil production increases.

The plant has several new features which previously have not been incorporated in the construction of new plants by the Skelly company. Gas is brought to the absorbers by means of direct connected 320-horsepower Snow tandem units. These machines are approximately twice the size of the standard gasoline plant units.

All metals used have been especially prepared to resist corrosion which in the past has been an important maintenance factor in the operation of natural gasoline plants in the Panhandle area. Electric power for all auxiliary equipment is manufactured at the plant.

ARGENTINA REFINERY SUPERINTENDENT BACK

C. A. Knight, formerly superintendent of the Sterling Oil & Refining Co.'s plant at Wichita, Kans., now owned by the Barnsdall Refineries, Inc., and later superintendent of the Casper, Wyo., plant of the White Eagle Oil & Refining Co., has returned after 18 months' work in building and starting the operation of the 14,000-bbl. refinery of the Argentine Government at La Plata, 30 miles from Buenos Aires. He was sent there by the Bethlehem Steel Corp., who built the plant.

One of the many interesting facts in the Argentine methods of refining is that 450 men are employed in the routine operation. This is more than double the men used in plants of similar size in the United States and, although the plant is modern in every respect the government labor system requires that many. The crude is produced by the government in Comodoro Rivadavia Field and is carried 800 miles by ocean tankers to the plant. As the government also handles the distribution of the refined products, all sales are made from its stations.

MORE FULLER'S EARTH MINED IN PAST YEAR

The volume and value of fuller's earth mined in 1926 increased compared to that mined the year previous, according to the United States Bureau of Mines. The increased production amounted to 13 per cent and the value increased 15 per cent. Georgia led in the volume produced, with Florida second, and Illinois third. These three states produced about 82 per cent of the total.

The growth of this industry is remarkable when considering that just 31 years ago the United States was entirely dependent upon foreign supplies. The stimulus for this development has been the almost universal adoption of this type of filtering medium in oil refining.

GORDON PLANT BURNED

On June 14, fire destroyed the gasoline plant belonging to the Lone Star Gas Co. at Gordon, Tex. This was one of the major plants, having a capacity of 15,000 gallons daily. It will be rebuilt immediately and is expected to be operating in three months.

MAKE PREPARATIONS TO EXTEND MARKET FOR WYOMING ASPHALTS

CASPER, Wyo., June 18.—The Greybull refinery of the Standard Oil Co. of Indiana, is about ready for the handling of black oil and a determined effort is to be made this year to sell Wyoming asphalt in competition with asphalts from Mexico and Texas.

The Greybull refinery has a rated capacity of 10,000 bbls. daily of crude, but now that black or asphaltic oil is being run, the capacity for light crude has been lowered. At this time the refinery is taking about 1,200 bbls. daily from the Hamilton Dome Field, cutting this oil for the gasoline content and then turning it into asphalt.

The Standard Oil Co. of Indiana recently took over by purchase the holdings of the Carter Oil Co. in the Maverick Springs Field, this field is all black oil with an estimated production of from 5,000 to 15,000 bbls. daily. The Ohio Oil Co. and the Midwest Refining Co. have found the Tensleep and Amsden sands in the Grass Creek Field productive of black oil and the Ohio Oil Co. drilled in the discovery well at Oregon Basin, showing that field to be a black oil field of prominence, about two months ago. All these fields are in the Big Horn Basin where the Greybull refinery is located, or are close to the basin.

The Casper refinery of the Standard Oil Co. of Indiana is also running some heavy oil as a unit of the plant has been built to handle this heavy crude only. The company has made arrangements this year to ship out of Casper and Greybull, 40,000 tons of asphalt for the trade and this figure will more than double the output of last season.

The competition in the asphalt trade comes from the importation of asphaltic oils from Mexico and some is manufactured from the heavy oils of Texas and Louisiana. California produces considerable asphalt also, but this latter State has been able to use a vast amount in road building which has kept the California asphalt from becoming a strong competitor of asphalt for the eastern trade.

Asphalt Market

Since Wyoming has a population of only about 200,000 people and Montana and other states are in like proportion, it is readily seen that the asphalt trade in this region is negligible compared to the demands of the thickly populated East. Wyoming asphalt has found some market in Denver, Colo., and Omaha, Neb., but with the proposed output for this season, the salesmen of asphaltic paving oils and tars must invade the eastern territory where the southern asphalts have long found their market.

The Casper refinery of the Standard Oil Co. of Indiana takes its asphaltic oil from the Poison Spider Field where the Fargo Western Oil Co. has a production which fluctuates between 600 and 1,000 bbls. daily. Also the Casper refinery has the Notches Field in western Natrona County to draw upon for asphaltic oils, though at present this field is shut in.

In some tests made in Casper and extending over a period of several years, the mixture of alkaline shale, ground fine, with asphalt and then this in turn mixed with macadam stone or gravel, appears to furnish a solution for a low cost asphaltic road bed for highways in the country where the regular asphaltic road cannot be laid on account of its cost. The mixture of alkaline shale and asphalt assumes a blanket-like form that binds the gravel or crushed stone and fills the voids to the exclusion of all water penetration from the surface. It is a well known axiom among highway engineers that as long as the road can be kept dry, there will be little or no deterioration.

The shales used in these experiments were taken from the Pierre, Carlile and Niobrara, though shales from the Red Beds were also tried. The Red Bed shales did not bind as did the Cretaceous shales. The use of the fine-ground shale makes the cost of the binder much less than if the straight asphaltic binder were used, but at the same time the cohesion of the mass is nearly the same as when the straight asphalt is used.

AMONG THE TECHNICAL MEN

In the winter of 1916 a young railroad man went to work in a minor position in the gasoline department of the Gypsy Oil Co. of Tulsa, Okla. Today that man, William H. (Jack) Vaughn, is superintendent, gasoline department of the Gulf Refining Co. of Louisiana and is recognized as one of the leading technical men in the North Louisiana and Arkansas district.

William H. Vaughn

It was in December, 1916, that Mr. Vaughn took a place with the Gypsy Oil Co. Although at that time he knew practically nothing about natural gasoline plants, by diligent study and hard work he developed to such an extent that in 1917 he was sent to Louisiana to oversee the construction of a gasoline plant at Mansfield.

At that time this came under the jurisdiction of the Gypsy Oil Co., a sister company of the Gulf Refining Co. This plant was the first for the company to be erected in North Louisiana or Arkansas, but when gasoline plant operations expanded he was placed in charge of the district in 1920, with offices at Shreveport.

In this capacity Mr. Vaughn continued until 1922, when the gasoline department was organized in the Gulf Refining Co. and he was made superintendent, a position he has held since. Mr. Vaughn's connections with the Gulf and Gypsy interests were interrupted during the World War, when in 1917 he enlisted and saw service in the aviation department.

As superintendent of the gasoline department of the Gulf Refining Co., Mr. Vaughn has charge of three plants, one in Arkansas and two in North Louisiana, and recently has taken over some additional production and experimental work.

NEW GOVERNMENT BULLETINS

Several bulletins on subjects of interest to operators of refineries and natural gasoline plants have recently become available for distribution. The list includes:

"The Interpretation of Crude Oil Analysis," by N. A. C. Smith, superintendent, Petroleum Experiment Station, Bartlesville, Okla. Copies of this bulletin, No. 2,806, may be obtained from the United States Bureau of Mines, Department of Commerce, Washington, D. C.

"Properties of Typical Crude Oils From the Producing Fields of Venezuela," by A. J. Kraemer, associate petroleum chemist, Washington, D. C. Bulletin No. 2,807, United States Bureau of Mines, Department of Commerce, Washington, D. C.

"Analyses of Spindletop, Texas, Crude Oils," by A. J. Kraemer and Peter Grandone. Mr. Grandone is a junior chemist of the United States Bureau of Mines, Department of Commerce, Washington, D. C.

"Petroleum Refinery Statistics, 1916-1925," by G. R. Hopkins, Bulletin 280, obtainable from Superintendent of Documents, Government Printing Office, Washington, D. C. Price 30 cents.

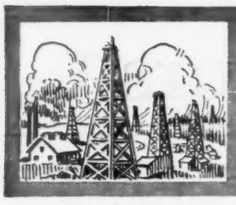
NEW UNIT AT CASPER FOR WHITE EAGLE CO.

CASPER, Wyo., June 18.—The White Eagle Oil & Refining Co. will start operating a new pipe still and bubble tower at its local refinery before the end of the month. The new unit will have a capacity of 3,500 bbls. daily.

The refinery in the past has depended on shell stills for its skimming plant operation. A pipe still to reduce fuel oil for gas oil used as charging stock for its cracking units has been in operation at the refinery for some time. The refinery has one unit of the Holmes-Manley cracking process and one unit of the Jenkins cracking process.

ENLARGING PLANT

CHATHAM, Ontario, June 18.—The plant of the Canadian Oil Refineries, Ltd., at Petrolia, Ontario, is being extended by the enlargement of the filtering plant and the installation of additional drum testing and laundering equipment.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	June 21		June 14		June 7	
OKLAHOMA (Group 3)—						
50-52 450 endpoint (Naphtha)	.06¼	.06⅜	.06¼	.06⅜	.06⅜	.06½
56-58 450 endpoint	.06¼	.06⅜	.06¼	.06⅜	.06⅜	.06½
58-60 450 endpoint	.06⅜	.06½	.06⅜	.06½	.06⅜	.06½
58-60 437 endpoint (U. S. Motor)	.06⅝	.06¾	.06⅝	.06¾	.06⅝	.06¾
60-62 400 endpoint	.07		.07		.07	
64-66 375 endpoint	.07⅛	.07¼	.07⅛	.07¼	.07¼	
68-70 360 endpoint	.07½		.07½		.07½	.07¾
64-66 437 endpoint	.06¼	.06½	.06½		.06½	
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.07	
NORTH TEXAS—						
56-58 437 endpoint	.06¼	.06½	.06¼	.06½	.06¼	.06½
58-60 450 endpoint	.06¼	.06⅜	.06¼		.06⅜	.06⅝
58-60 437 endpoint (U. S. Motor)	.06½	.06⅝	.06½	.06⅝	.06½	.06⅝
60-62 400 endpoint	.06¾	.06⅞	.06¾		.06¾	.07
64-66 390 endpoint	.07		.07		.07	
64-66 375 endpoint	.07	.07⅛	.07	.07¼	.07	.07¼
68-70 360 endpoint	.07¼	.07½	.07½		.07½	
64-66 437 endpoint (blend)	.06½		.06½		.06½	
NORTH LOUISIANA—						
56-58 437 endpoint (U. S. Motor)	.06¾	.07	.06¾		.06¾	.07
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.07		.07	
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08½	.07¾	.08½	.07¾	.08½
54-56 Nahptha	.08½	.08¾	.08½	.08¾	.08½	.08¾
58-60 Gasoline	.08⅞	.09⅛	.09	.09¼	.09	.09¼
60 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
62 Gasoline	.10	.10¼	.10	.10¼	.10	.10¼
64 Gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.08	.09	.07½	.08½	.07½	.08½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06¼		.06½		.06¼	.06½
56-58 450 endpoint	.06⅜	.06½	.06⅜	.06½	.06¼	.06⅜
58-60 437 endpoint (U. S. Motor)	.06¾		.06¾		.06¾	
60-62 400 endpoint	.07		.07		.07	.07⅛
64-66 375 endpoint	.07¼		.07¼		.07¼	
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 endpoint (blend)	.06½		.06½		.06½	

NATURAL GASOLINE

	June 21		June 14		June 7	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04½	.04¾	.05	.05⅛	.05½	
Grade A, 72-79.9, 375 e.p., rec. 90%	.04¾		.05	.05⅛	.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½	.04¾	.05		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½	.04¾	.05		.05¼	
Grade C, 80-90, 375 e.p., rec. 78%	.04½	.04¾	.05		.05	.05¼
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾		.05		.05¼	.05½
Grade A, 72-79.9, 375 e.p., rec. 90%	.04¾		.05		.05¼	.05½
Grade BB, 84-92, 375 e.p., rec. 85%	.04½	.04¾	.04¾	.05	.05	.05¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½	.04¾	.04¾	.05	.05	.05¼
Grade C, 80-90, 375 e.p., rec. 78%	.04½	.04¾	.04¾	.05	.05	
NORTH LOUISIANA—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾	.05	.05	.05¼	.05½	.05¾
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾	.05	.05	.05¼	.05¼	.05½
Grade C, 80-90, 375 e.p., rec. 78%	.04⅝	.04⅜	.04¾		.05	
CALIFORNIA—						
75-85, 370, 390 endpoint	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¾		.05⅛		.05½	
Grade A, 72-79.9, 375 e.p., rec. 90%	.04¾		.05⅛		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.04½	.04¾	.05	.05½	.05¼	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04½	.04¾	.05	.05⅛	.05¼	
Grade C, 80-90, 375 e.p., rec. 78%	.04½	.04¾	.05		.05	.05¼

BURNING OIL

	June 21		June 14		June 7	
KANSAS—						
41-43 water white Kerosene	.04⅜	.04½	.04½		.04½	.04¾
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04	.04¼	.04⅛	.04¼	.04¼	.04½
42-44 water white Kerosene	.04⅜	.04½	.04½		.04⅝	.04¾
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04⅝	.04¾	.04⅝	.04¾	.04¾	
NORTH TEXAS—						
41-43 water white Kerosene	.03⅞	.04⅛	.04	.04⅛	.04¼	
40-42 water white Kerosene	.03¾		.03⅞	.04	.03⅞	.04
ARKANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04⅝	.04¾
PENNSYLVANIA—						
43 Kerosene prime white	.06¼	.06½	.06¼	.06½	.06¼	.06½
45 Kerosene water white	.06⅝	.06⅝	.06¼	.06½	.06⅜	.06⅝
46 Kerosene water white	.06⅞	.07⅛	.06¾	.07	.06⅞	.07⅛
47 Kerosene water white	.06¾	.07	.07	.07¼	.07	.07¼
300 Mineral Seal	.07½	.07¾	.07¾	.08	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.05¾	.06½	.05¾	.06½	.05¾	.06½
Engine distillate, 43-45 445 endpoint	.07	.07½	.07	.07½	.07	.07½
Engine distillate, 42-44 480 endpoint	.06¾	.07	.06¾	.07	.06¾	.07
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04¼	.04⅜	.04⅜	.04½	.04⅜	.04½
42-44 water white Kerosene	.04½		.04⅝	.04¾	.04⅝	.04¾

FUEL OILS

	June 21		June 14		June 7	
KANSAS—						
24-26 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Distillate	.03½		.03½		.03½	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil	.85	.90	.85	.87½	.85	.87½
18-22 Fuel Oil	.90	.92½	.87½	.90	.87½	.90
22-26 Fuel Oil	.90	.92½	.90	.92½	.90	.92½
24-26 Fuel Oil	.90	.95	.90	.95	.90	.95
26-30 Fuel Oil	.95	.97½	.95	.97½	.95	.97½
28-30 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil (dark)	.02⅝		.02⅝		.02⅝	
32-36 Gas Oil (straw overhead)	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
36-38 Distillate	.03⅛		.03⅛		.03⅛	.03¼
38-40 Straw Distillate	.03⅛	.03¼	.03⅛	.03¼	.03¼	.03½
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.87½	.90	.85		.85	.90
32-36 Gas Oil (straw)	.02⅝	.02¾	.02½	.02¾	.02⅝	.02¾
38-40 Straw Distillate	.03	.03⅛	.03		.03	.03¼
NORTH LOUISIANA—						
18-20 Fuel Oil	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil	.03¼	.03½	.03¼	.03½	.03	.03¼
ARKANSAS—						
36-38 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
32-36 Gas Oil (straw)	.03¼	.03½	.03¼	.03½	.02¾	.03
16-20 Refinery Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
GULF COAST (South Texas)—						
Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04⅜
Fuel Oil	1.50	1.60	1.50	1.60	1.50	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.04¼	.04¾	.04¼	.04¾	.04¼	.04¾
36-40 Fuel Oil	.04¼	.04¾	.04¾	.05	.04¾	.05
CALIFORNIA—						
33-36 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
27-32 Distillate	.03¼	.03¾	.03¼	.03¾	.03¼	.03¾
*15-20 Fuel Oil, Bunkers (at tide water)	.85	.100	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots)	.71	.75	.71	.75	.71	.75
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	.95		.92½	.95	.95	.97½
22-26 Fuel Oil (sellers' cars) Group 3	.92½	.95	.90	.92½	.90	.92½
18-22 (Group 3)	.90		.90		.87½	.90
16-20 Smackover	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil (zero)	.02⅞	.03¼	.02⅞	.03	.02⅞	.03
32-36 Gas Oil (industrial)	.02⅝	.02⅞	.02¾	.02⅞	.02¾	.02⅞
36-38 Distillate	.03	.03¼	.03	.03⅛	.03	.03⅛
38-40 Straw Distillate	.03¼	.03½	.03¼	.03⅜	.03¼	.03⅜

*Bunkers.

LUBRICATING OIL AND WAX

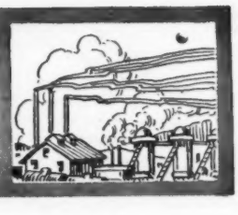
	June 21		June 14		June 7	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06½	.06¾	.06½	.06¾	.06½	.06¾
100 vis., 3 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
150 vis., 3 color, 20-25 cold test	.08½	.08¾	.08¼	.08¾	.08½	.08¾
150 vis., 4 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
180 vis., 3 color, 23-28 cold test	.10	.10¼	.10	.10¼	.10	.10¼
180 vis., 4 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
180 vis., 5 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 3 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 4 color, 23-28 cold test	.10⅜	.10⅞	.10⅜	.10⅞	.10⅜	.10⅞
200 vis., 5 color, 23-28 cold test	.10½	.10¾	.10½	.10¾	.10½	.10¾
240 vis., 3 color, 25-30 cold test	.14	.14¼	.14	.14¼	.14	.14¼
240 vis., 4 color, 25-30 cold test	.13½	.13¾	.13¼	.13¾	.13½	.13¾
240 vis., 5 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
280 vis., 3 color, 25-30 cold test	.15¾	.16¼	.15¾	.16¼	.15¾	.16¼
280 vis., 4 color, 25-30 cold test	.15¼	.15½	.15¼	.15½	.15¼	.15½
280 vis., 5 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
Cylinder Stocks:						
600, steam refined, light green	.07	.09	.07½	.10	.07½	.10
600, steam refined, dark green	.05	.06	.05	.06	.05	.06
190-200 vis. @ 210 Bright Stock	.31	.33	.31	.33	.31	.33
150-160 vis. @ 210 Bright Stock	.26		.26		.26	
Waxes:						
124-126 White Crude Scale Wax	.02½	.02¾	.02⅝	.02¾	.02⅝	.02¾
PENNSYLVANIA—						
34 Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.07	.07¼	.07	.07¼	.07	.07¼
150, 3 color	.28¼	.28½	.28¼	.28½	.28¼	.28½
180, 3 color	.32¼	.32½	.32¼	.32½	.32¼	.32½
200, 3 color	.34¼	.34½	.34¼	.34½	.34¼	.34½
220, 3 color	.34¼	.36½	.34¼	.36½	.34¼	.36½
600, steam refined	.08¾	.09	.08¾	.09	.08¾	.09
635, steam refined	.10¼	.10½	.10¾	.11	.10¾	.11
650, steam refined	.12¼	.12½	.12¾	.13	.12¾	.13
600, Pennsylvania flash	.17½	.18	.17½	.18	.17½	.18
630, Pennsylvania flash	.26½	.27	.28	.28½	.28	.28½
*550, E filtered	.17	.17¾	.17¼	.18	.17¼	.18
*600, E filtered	.18¾	.19	.18¼	.19	.18¼	.18¾
600, E filtered	.17¼	.17¾	.17¼	.17¾	.17¼	.17¾
600, D filtered	.25	.25½	.25	.25½	.25	.25½
550, E filtered	.17½	.18	.17½	.18	.17½	.18
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.33	.33½	.33	.33½	.33	.33½
†122-124 White Crude Scale Wax	.02⅞	.03¼	.02⅞	.03	.02⅞	.03
†124-126 White Crude Scale Wax	.03⅛	.03¼	.03	.03⅛	.03	.03⅛

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.07	.07½	.07	.07½	.07	.08
No. 3 color, 200 vis., pale oil	.10½	.11	.10½	.11	.10½	.11½
No. 3 color, 300 vis., pale oil	.11½	.12	.11½	.12	.11½	.12½
No. 3½ color, 500 vis., pale oil	.13½	.14	.13½	.14	.13½	.14
No. 4 color, 750 vis., pale oil	.16	.16½	.16	.16½	.16	.16½
No. 5 to 6 color, 200 vis., red oil	.08½	.09	.08½	.09	.08½	.09½
No. 5 to 6 color, 300 vis., red oil	.10	.10½	.10	.10½	.10	.11
No. 5 to 6 color, 500 vis., red oil	.11½	.12	.11½	.12	.11½	.12½
No. 5 to 6 color, 750 vis., red oil	.14½	.15	.14½	.15	.14½	.15½
No. 2 color, 200 vis., pale filtered	.13	.14	.13	.14	.13	.14
No. 2 color, 300 vis., pale filtered	.14½	.15	.14½	.15	.14	.15
No. 2½ color, 500 vis., pale filtered	.16	.17	.16	.17	.16	.17
No. 2½ color, 750 vis., pale filtered	.20	.21	.20	.21	.20	
CALIFORNIA—						
130 vis., 2½-3 color	.10½	.11	.10½	.11	.10½	.11

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields



200 vis., 2½-3	color	.11	.11½	.11	.11½	.11	.11½
300 vis., 3 -3½	color	.11½	.12	.11½	.12	.11½	.12
350 vis., 3½-4	color	.12	.13	.12	.13	.12	.13
400 vis., 3½-4	color	.13	.15½	.13	.15½	.13	.15½
Red Neutral:							
200 vis., 4½-5	color	.09½	.10½	.09½	.10½	.09½	.10½
300 vis., 5 -6	color	.10½	.11	.10½	.11	.10½	.11
400 vis., 5 -6	color	.12	.13½	.12	.13½	.12	.13½
500 vis., 4½-5	color	.13½	.14½	.13½	.14½	.13½	.14½
500 vis., 5 -6½	color	.12½	.13½	.12½	.13½	.12½	.13½
600 vis., 6 plus	color	.13½	.14½	.13½	.14½	.13½	.14½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	June 21	June 14	June 7
Gasoline, U. S. Motor, 58-60 437	.09	.09	.09
Kerosene, water white, 41-43	.07	.07½	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.65	1.65	1.65
*Fuel Oil, Diesel, 28-30, per bbl.	2.20	2.20	2.20
Gas Oil, 28 plus	.05½	.05½	.05½
25 pale Paraffin Oil	.12	.11¾	.11¾
28 pale Paraffin Oil	.07¼	.07¼	.07¼
285 red Paraffin Oil	.12¾	.12¾	.12¾
250 red Paraffin Oil	.11¾	.11¾	.11¾
225 red Paraffin Oil	.10¾	.10¾	.10¾
200 red Paraffin Oil	.09¾	.09¾	.09¾
Refined Wax:			
120-122 a.m.p., per lb.	.03⅞	.03⅞	.03⅞
125-127 a.m.p., per lb.	.04	.04	.04
130-132 a.m.p., per lb.	.04½	.04½	.04½
135-137 a.m.p., per lb.	.05	.05	.05
Petrolatum, in bbls.; carload lots, per lb.:			
Dark green	.01	.01¾	.01¾
Amber	.03¼	.03¼	.03¼
Extra amber	.03⅝	.03⅝	.03⅝
Cream	.05½	.05½	.05½
Lily white	.07	.07	.07
Snow white	.08	.08	.08

*Lighterage 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	June 21	June 14	June 7
Gasoline, U. S. Motor, 58-60 437, in cases	.2440	.2490	.2490
Kerosene, standard white, in cases	.1615	.1615	.1615
Kerosene, water white, in cases	.1715	.1715	.1715
600 steam refined cylinder stock, in bbls.	.17	.18	.18
635 steam refined	.19	.20	.20
650 steam refined	.21	.22	.22
600 Pennsylvania flash	.25	.26	.26
630 Pennsylvania flash	.34	.34	.34
600 Warren E	.36	.36	.36
600 Oil City E	.24½	.24½	.24½
Light 135 Bright Stock	.41	.42	.42
Dark 135 Bright Stock	.39	.40	.40

LOS ANGELES EXPORT PRICES

	June 21	June 14	June 7
Kerosene water white	.04¼ .04½	.04¼ .04½	.04¼ .04½
U. S. Motor Gasoline, 53-55 437 e.p.	.05½ .06½	.05½ .06½	.05½ .06½

CALIFORNIA CRUDE PRICES

***Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)**

Gravity—	1	2	3	4	5	6	7	8
	Fullerton, Seal Beach, Long Beach, Huntington Beach, Richfield, Rosecrans, Dominguez, Torrance-Inglewood	Whittier, La Habra, Montebello	Kern River, Newhall, McKittrick, Midway-Sunset, Elk Hills	Belridge, Buena Vista Hills, Coyote	Santa Fe Springs	Coalinga	Wheeler Ridge	Santa Maria, Ventura, Orcutt, Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.96
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 32 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 8—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted only by Union Oil Co.

CRUDE OIL GRAVITY PRICE TABLE

Gravity—	1 Okla., Kans., N. C. Tex., La.-Ark.	2 Smackover, Ark.	3 Stephens, Ark.	4 Wheeler and Gray Counties, (Texas Panhandle)	5 Crane, Upton Crockett Counties (West Texas)	6 Salt Creek, Wyo.	7 Grade B & Light Crude (G. Coast)	8 Somerset, (South Central Texas)
Below 24	....	1.00	....	....	....	....	....	....
24 to 24.9	....	1.25	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.16	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	.70	....	....	....	....
26 to 26.9	....	....	....	.72	....	....	1.19	....
27 to 27.9	....	....	....	.74	....	....	1.21	....
Below 28	****	....	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.76	....	1.23	....
29 to 29.9	1.14	....	1.04	.82	.78	1.14	1.25	....
30 to 30.9	1.16	....	1.06	.84	.80	1.16	1.27	....
31 to 31.9	1.18	....	1.08	.86	.82	1.18	1.29	....
32 to 32.9	1.20	....	1.10	.88	.84	1.20	1.31	1.06
33 to 33.9	1.22	....	....	.90	.86	1.22	1.33	1.07
34 to 34.9	1.24	....	....	.92	.88	1.24	1.35	1.09
35 to 35.9	1.26	....	....	.94	.90	1.26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.92	1.28	....	1.13
37 to 37.9	1.30	....	....	.98	....	1.30	....	1.15
38 to 38.9	1.32	....	....	1.00	....	....	....	1.17
39 to 39.9	1.34	....	....	1.02	....	....	....	....
40 to 40.9	1.36	....	....	1.04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1.40	....	....	1.08	....	....	....	....
43 to 43.9	1.42	....	....	1.10	....	....	....	....
44 to 44.9	1.44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1.50	....	....	....	....	....	....	....
48 to 48.9	1.52	....	....	....	....	....	....	....
49 to 49.9	1.54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1.58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule May 5, making price below 33 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 33-33.9 gravity at $1.07 as basis, with a top price of $1.45 for 52 and above.

Oklahoma: Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 12; Carter Oil Co., The Texas Company, March 14.

North Central Texas—(Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only), Currie, Nocona, Moran and Corsicana light); Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer and El Dorado only); Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—Standard Oil Co. of Louisiana, The Texas Company, Gulf, Atlantic, March 17, Magnolia Petroleum Co. (March 16) posted price of $1 for below 24 degrees and $1.15 for 24 and above. Louisiana Oil Corp. posted following prices effective March 16: Below 24, $1, 24 to 27.9, $1.15; 28 to 28.9, $1.17; 29 to 29.9, $1.19; 30 and above, $1.21.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14.

Column 5—Humble Oil & Refining Co., Kay County Gas Co. and Gulf Pipe Line Co., March 14.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

****Prices for crude below 28 gravity: Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree with exception of Humble Oil & Refining Co., which pays $1.12 for crude below 28 degrees gravity.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927)	$1.00
Other fields	See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County	$ .95
*Hutchinson County	.95
Gray-Wheeler Counties	See gravity table

*Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. and Kay County Gas Co., March 14.

WEST TEXAS

*Iatan (Same as North Texas)	
Crane-Upton-Crockett	See gravity table

*Includes Howard County and Westbrook Fields. Kay County Gas Co. pays $1.05 for Howard County crude, effective May 21.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (March 17)	$1.00
Bellevue (Feb. 24, 1927)	1.25
Urania (March 16, 1927)	1.00
East El Dorado (March 16)	1.00
Other fields	See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Gulf Refining Co. and Magnolia Petroleum Co.; Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14)	$1.20
Grade B	See gravity table
*Jennings, La. (March 14)	1.05
†Saratoga, Batson, Dayton (March 14, 1927)	1.00
**Markham (March 14)	1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. **The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5)	$1.00
†Mirando (March 14)	1.00
Rockdale-Minerva (Milam County)	1.25
*Thrall	....
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

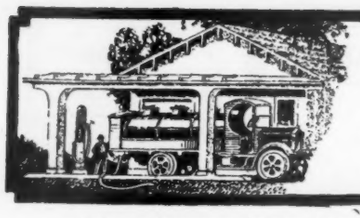
*Posted by Magnolia Petroleum Co. Thrall prices same as north central Texas less 19½ cents per cwt. freight.

†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective March 14)

Rock Creek, Wyo. (March 12)	$1.25
Salt Creek	See gravity table
Big Muddy (March 12)	1.25
Mule Creek (May 1)	1.10
Grass Creek, light (March 12)	1.33
Grass Creek, heavy	.98
Elk Basin (March 12)	1.33
Lance Creek (March 12)	1.33
Poison Spider	1.00
Notches	.65
Rex Lake (February 23)	1.10
Osage	1.33
Lost Soldier (contract) (May 17)	1.60
Greybull-Torchlight	1.33
Hamilton Dome	1.35
Cat Creek (Mont.)	1.33
Sunburst (Mont.) (October 5)	1.35
Artesia (March 12)	1.00

(Continued on Page 150)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns June 21.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Chicago dist.	14.0	16.0	...	12.0
Decatur, Ill.	14.2	16.2	...	12.1
E. St. Louis	13.1	15.35	...	11.2
Joliet	14.4	16.4	...	12.3
Peoria	14.2	16.2	...	12.1
Quincy	14.2	16.2	...	10.9
Davenport, Ia.	16.5	18.5	2.0	12.3
Des Moines	16.0	18.0	2.0	12.3
Keokuk	16.5	18.5	2.0	12.3
Sioux City	16.1	18.1	2.0	11.9
Duluth, Minn.	15.5	17.5	2.0	12.9
Minneapolis	14.0	16.0	2.0	12.9
Mankato	15.1	17.1	2.0	12.7
LaCross, Wis.	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich.	16.8	18.8	2.0	12.7
Grand Rapids	16.7	18.7	2.0	13.6
Saginaw	16.9	18.9	2.0	13.6
Evansville, Ind.	17.0	19.0	3.0	13.0
Ft. Wayne	17.4	19.4	3.0	13.4
Indianapolis	17.2	19.2	3.0	13.2
South Bend	17.4	19.4	3.0	13.4
Fargo, N. D.	17.9	19.9	2.0	14.9
Huron, S. D.	15.5	17.5	3.0	13.9
Sioux Falls	17.3	19.3	3.0	13.4
K. C. Mo.	14.9	16.9	3.0	10.6
*Springfield	16.8	18.8	3.0	11.5
*St. Louis	15.6	17.9	2.5	11.3
*St. Joseph	16.5	18.5	3.0	11.2
Wichita, Kans.	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.8	17.8	3.0	10.8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	16.0	11.75
V. M. & P. naphtha	18.0	13.75
Cleaner's naphtha	18.0	13.75
Stanisol	19.0	.....

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district the following quantity discount schedule is in effect on tank wagon deliveries of gasoline: 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1½ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
All Ohio points	19.0	21.0	3.0	15.0

SOUTHWESTERN DISTRICT

***Magnolia Petroleum Co.**

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Dallas, Tex.	15.0	18.0	3.0	11.0
Fort Worth	15.0	18.0	3.0	10.0
Houston	15.0	19.0	3.0	15.0
San Antonio	15.0	18.0	3.0	11.0
El Paso	17.0	19.0	3.0	16.0
Texarkana	15.0	18.0	3.0	12.0
Muskogee, Ok.	14.0	17.0	3.0	10.0
Okla. City	14.0	17.0	3.0	10.0
Tulsa	14.0	17.0	3.0	10.0
Ft. Smith, Ark.	18.0	21.0	5.0	12.0
Little Rock	18.0	21.0	5.0	12.0

***The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons 1¼ cents; over 6,000 gallons, 1½ cents; over 9,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.**

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge	14.0	17.0	2.0	12.5
Alexandria	15.0	18.0	2.0	14.0
LaFayette	15.0	18.0	2.0	13.5
Lake Charles	15.5	18.5	2.0	14.0
Shreveport	14.0	17.0	2.0	13.0
Knoxville, Tenn.	19.5	22.5	3.0	15.0
Memphis	13.0	16.0	3.0	14.0
Chattanooga	19.5	22.5	3.0	15.0
Nashville	16.5	19.5	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	18.0	21.0	5.0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Atlanta, Ga.	18.0	21.0	4.0	15.0
Augusta	19.0	22.0	4.0	16.0
Macon	19.0	22.0	4.0	16.0
Savannah	18.0	20.0	4.0	14.0
Birm'h'm, Ala.	18.0	21.0	4.0	15.5
Mobile	17.0	20.0	4.0	15.0
Montgomery	19.0	22.0	5.0	16.5
Clarks'le, Miss.	17.0	20.0	4.0	13.5
Jackson	17.0	20.0	4.0	14.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	17.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla.	17.0	20.0	4.0	14.0
Miami	19.0	22.0	4.0	15.5
Pensacola	18.0	21.0	5.0	15.0
Tampa	16.0	19.0	4.0	14.0
Lexington, Ky.	18.0	21.0	5.0	15.5
Covington	20.0	23.0	5.0	15.5
Louisville	19.0	22.0	5.0	15.0

In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Prices in Georgia include one-half cent inspection fee on gasoline and kerosene; in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Pittsburgh, Pa.	16.0	*21.0	...	14.0
Philadelphia	14.0	18.0	...	14.0
Scranton	16.0	*21.0	...	14.0
Allentown	16.0	*21.0	...	14.0
Altoona	16.0	*21.0	...	14.0
Erie	14.0	19.0	...	14.0
Dover, Del.	19.0	22.0	3.0	14.0
Wilmington	19.0	22.0	3.0	14.0
Spring'd, Mass.	17.0	19.0	...	15.0
Worchester	17.0	19.0	...	15.0
Boston	17.0	19.0	...	15.0
Providence, R.I.	18.0	20.0	1.0	15.0
Hartford, Conn.	21.0	23.0	2.0	15.0
New Haven	21.0	23.0	2.0	15.0

*Includes tax of 2 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the state.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Albany, N. Y.	19.0	21.0	...	15.0
*New York	19.0	23.0	...	15.0
Buffalo	18.0	21.0	...	14.0
Rochester	17.0	20.0	...	14.0
Syracuse	19.0	21.0	...	15.0
Boston, Mass.	17.0	19.0	...	15.0
Augusta, Me.	22.0	26.0	3.0	15.0
M'nchest'r, N.H.	17.0	21.0	2.0	15.0
Burlington, Vt.	21.0	23.0	2.0	15.0

*Price in steel barrels.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
San Francisco	16.0	19.0	2.0	15.5
Pueblo	16.0	16.0	2.0	15.5
Los Angeles	14.5	18.5	2.0	15.5
Reno, Nev.	21.0	25.0	4.0	19.0
Portland, Ore.	16.5	20.5	3.0	16.5
Seattle, Wash.	15.5	19.5	2.0	16.5
Tacoma	15.5	19.5	2.5	16.5
Spokane	19.5	23.5	2.0	20.5
Phoenix, Ariz.	21.0	25.0	3.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Atlantic City	16.0	....	...	14.0
Newark, N. J.	16.0	18.0	...	14.0
Annapolis, Md.	20.0	23.0	4.0	14.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland	20.0	23.0	4.0	14.0
Washington	16.0	19.0	2.0	12.0
Danville, Va.	20.5	....	4.5	14.0
Norfolk	20.5	20.5	4.5	14.0
Petersburg	20.5	23.5	4.5	14.0
Roanoke	20.5	23.5	4.5	14.0
Richmond	20.5	23.5	4.5	14.0
Charleston, W. Va.	19.5	22.5	3.5	14.0
Keyser	19.5	....	3.5	14.0
Parkersburg	16.5	19.5	3.5	14.0
Wheeling	19.5	22.5	3.5	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	23.0	4.0	14.0
Mt. Airy	20.0	23.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charl'stn, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	20.0	5.0	14.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Omaha	14.25	16.25	2.0	12.25
McCook	17.75	17.75	2.0	13.75
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incldg tax of	Tank wagon
Denver, Colo.	18.0	20.0	2.0	14.5
Pueblo	17.0	17.0	2.0	14.5
Grand Junction	21.5	23.5	2.0	18.0
Casper, Wyo.	18.0	20.0	3.0	13.0
Cheyenne	19.0	21.0	3.0	14.5
Butte, Mont.	22.0	22.0	3.0	19.0
Helena	22.5	24.5	3.0	19.0
Salt Lake, Utah	21.0	23.0	3.5	17.0
Boise, Idaho	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0
Albu'que, N. M.	21.0	24.0	5.0	17.0

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended June 11 totaled 1,181,000 bbls., a daily average of 168,714 bbls., compared with 1,246,000 bbls., a daily average of 178,000 bbls., for the week ended June 4 and a daily average of 176,357 bbls. for the four weeks ended June 11.

At Atlantic Coast Ports—	
Baltimore	134,000
Boston	.....
New York	533,000
Philadelphia	68,000
Others	283,000
Total	1,018,000
Daily average	145,429
At Gulf Coast Ports—	
Galveston district	20,000
New Orleans and Baton Rouge	143,000
Port Arthur and Sabine district	.....
Tampa	.....
Total	163,000
Daily average	23,285
At All United States Ports—	
Total	1,181,000
Daily average	168,714
Daily average four weeks ended	176,357

Receipts of California crude and refined at Atlantic and Gulf Coast ports for the week ended June 11 totaled 900,000 bbls., a daily average of 128,571 bbls., against 557,000 bbls., a daily average of 79,571 bbls., for the week ended June 4, and a daily average of 80,000 bbls. for the four weeks ended June 11.

At Atlantic Coast Ports—	
Baltimore	100,000
Boston	242,000
New York	348,000
Philadelphia	.....
Others	210,000
Total	900,000
Daily average	128,571
At Gulf Coast Ports—None.	
Total Atlantic and Gulf Coast ports	900,000
Daily average	128,571
Daily average four weeks ended	80,000
Distribution of total California receipts is as follows:	
Crude	521,000
Gasoline	173,000
Fuel oil	206,000
Total	900,000

SHREVEPORT MARKETS RESISTING DECLINES

SHREVEPORT, La., June 20.—Sellers in North Louisiana and Arkansas Monday were "sitting tight" on their quotation. While orders were noticeably slower on all products, several refiners in the district are fairly well taken care of for the remainder of the month and will be in a position to resist price declines.

The prevailing quotation on 56-58 437 gasoline Monday continued at 7 cents and, while business was a little hard to get at this figure, few orders were being placed under it. So far no July business has been placed.

There was very little demand for kerosene, but on the other hand this product is not freely available here and the market is principally local. Prices received on orders Monday ranged from 4½ to 5 cents. However, the general movement was not over 4¾ cents.

An uncertain tone also was apparent in gas oil and for the most part refiners were not getting over 3¼ cents Monday. There still is good demand for this product from the rice districts, but several refiners have completed June orders and are depending on short orders until inquiries for July requirements begin coming in from buyers.

Fuel oils were featureless with quotations being maintained at $1.15 in North Louisiana.

WILCO PRODUCTION CO.

DOVER, Del., June 20.—Charters were filed with the state department here today for the Wilco Producing Co., with a capitalization of 50,000 shares, no par value, by G. A. Dye, M. P. Appleby and Horace B. Clay, all of Tulsa. The company will deal in oil, gas and other minerals.

G. A. Dye is vice president and general manager of the Wilcox Oil & Gas Co., M. P. Appleby is secretary and treasurer and Horace B. Clay is attorney for the same company.

CRUDE OIL PRICES

(Continued from Page 149)

Hogback (N. Mex.) (March 14)	1.30

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective April 13)

Penna Grade Oil in New York Transit Line (New York)	$2.90
Bradford District Oil in National Transit Lines (Pennsylvania)	2.90
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.80
Penna Grade Oil in Southwest Pennsylvania Lines (West Virginia)	2.80
Penna Grade Oil in Eureka Pipe Line lines (Pennsylvania)	2.75
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) March 16	1.40
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (March 17)	1.35
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (March 17)	1.45
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) March 16	1.50
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	.95
Keister (Pennsylvania)	1.10

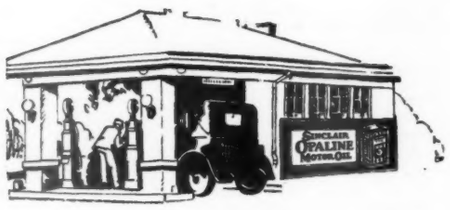
MIDDLE WESTERN STATES
Ohio Oil Co.
(Effective March 14)

Lima	$1.71
Wooster	1.77
Illinois	1.60
Indiana	1.48
Princeton	1.60
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.33
**Saginaw, Mich., Bearen Sand (May 27)	1.95
**Saginaw, Mich., Saginaw Sand (May 27)	2.05
†Cumberland, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
†Clay County, Tennessee (November 18	2.35
§Oil Springs (Canada)	2.18
§Petrolia (Canada)	2.11

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

*Tuxpam light (f.o.b. Mex. ports)	$1.35
†Panuco heavy (f.o.b. Mex. ports)	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.80

*Plus 32.328c tax. †17.631c tax.



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Oil Securities Were Active and Firm

Prairie Pipe Line Touches New High. Reiter Foster Oil Co. Plans Increase in Authorized Stock

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 20.—Oil securities were active and firm during the past week. The Oil and Gas Journal average rose above 60 for the first time since February. Prairie Pipe made a new high at 185. Reiter Foster Oil Co. plans an increase in authorized stock from 250,000 to 400,000 shares. If ratified the privilege will be given stockholders to subscribe to the new stock at $5 per share.

Natural Gas

Never before has there been such widespread interest in natural gas as during the present year, when many millions have been put into the development of natural gas producing properties, in pipe lines and natural gasoline plants.

This has been reflected in new financing on the part of natural gas companies and in security movements. Houston Oil, which has advanced 100 points this year, is supposed to have risen as a result of expansion in its natural gas business.

In Potter County, the Texas Panhandle, one of the greatest natural gas fields in the world is supposed to exist. This is understood to be controlled largely by the Amarillo Oil Co. The Prairie Oil & Gas Co. purchased control of the Amarillo Oil Co. in 1924. Amarillo Oil has about 400,000 acres of land in Potter County.

It is believed that ultimately this field will supply many more cities with natural gas than is at present contemplated. It is now being connected with Texas, Oklahoma and Kansas cities, and ultimately it is proposed to extend a line from the field to Denver. A branch may also be built to supply the main steel plant of the Colorado Fuel & Iron Co. at Trinidad, Colo.

Bull Market in Oils

There has been a "bull market" in some oil issues, despite present general conditions in the petroleum industry. Many new high records for all time have been made in certain securities. In most instances the biggest advances in market price took place since the breaks in crude and refined oil prices have occurred.

The following are some of the petroleum issues that have had substantial rises this year:

	1927 High	1927 Low	Advance
Atlantic Refining	125⅝	107	18⅝
Houston Oil	166½	60¼	106¼
Transcontinental Oil	7¾	3¾	4
Chesebrough Mfg.	115	76½	38½
Illinois Pipe Line	160	133¾	16¼
Prairie Pipe Line	177	132	45½
Vacuum Oil	134	95½	38⅞

All of these are now selling near their high points.

Ohio Oil

There has been a boom in some companies as a result of west Texas oil development. These include Transcontinental Oil, which has risen from 3⅝ to 7¾, Texas Pacific Land Trust old, up from 1,500 to 3,500, and Illinois Pipe Line, up from 133¾ to 150. However, Ohio Oil has failed to reflect its interest in the Pecos County oil field. Ohio Oil, through Mid-Kansas Oil & Gas Co., has a 50 per cent interest in the Yates ranch on which all production to date has been obtained. Transcontinental owns the remaining 50 per cent.

Anglo-American Oil

Anglo-American Oil Co. has had a steady growth in business in the United Kingdom. The British break with Russia is expected to lessen Russian oil competition in England and should ultimately result in higher oil prices.

Equipment Issues

The issues of the oil well supply companies have been relatively firm. On first glance it would seem that the equipment business would be very hard hit by the reduction in oil prices. However, traders in equipment securities point out that the oil business is perhaps more dependent upon drilling than on any other single factor. If every new oil drilling operation were to stop immediately it is conceivable that within three months the oil industry would be drawing tremendously on stocks with no new supply of oil in sight. Thence would follow a record amount of drilling and equipment purchasing which would, it is believed, offset the previous lull. This theory works equally in the case of a temporary partial let-down in drilling. The result, not always immediately evident, is nevertheless inevitable. The equipment companies, it is believed, will soon make up for any temporary depression they might suffer.

The first step in actual efforts to produce oil consists in purchasing the material with which to drill.

Standard of Indiana

The Standard Oil Co. of Indiana announces that 16,706 employes, 83.3 per cent of the 20,055 eligible, are subscribing to the company's stock under the second employe stock ownership plan which runs for three years to the end of 1929. To be eligible to participate in the plan, an employe must have had at least one year's continuous service with the company and, if he participated in the previous stock purchase plan, to have retained at least two-thirds of the stock acquired under the previous plan.

Pan American-Mexican Petroleum

It is reported that Standard Oil Co. of Indiana now has approximately an 86 per cent interest in Pan American Eastern common stock, as against about 50 per cent acquired originally. It is expected that cognizance of the changed ownership will be given shortly in an announcement of new directors for both Pan American Eastern and Pan American Petroleum & Transport Co.

At the annual meeting of the Mexican Petroleum Corp. which company is controlled by Pan American & Transport a stockholder requested F. H. Wickett, chairman, to submit to directors of Pan American Petroleum & Transport Co., of which board he is also chairman, the desire of minority stockholders that a better offer be made them for their shares. Chairman Wickett said that he would present the matter at the next meeting of Pan American directors.

The last offer made to minority stockholders of Mexican Petroleum Corp., still in effect, provided for the exchange of 2½ shares of Pan American Petroleum & Transport class B stock for each share of Mexican Petroleum common and 1⅛ share of Pan American Class B common for each share of Mexican Petroleum preferred. At the current price of around $59 a share for Pan American B, the equivalent for Mexican Petroleum common would be $147 a share. The last sale of Mexican Petroleum, made a few days ago, was at $250 a share. The latter is now quoted $200 bid, $275 asked.

The Pan American Petroleum & Transport Co. owned 449,462 shares of outstanding 457,289 shares of Mexican Petroleum $100 par common and 118,516 shares of outstanding 120,000 shares of Mexican Petroleum $100 par preferred. This represents 98.3 per cent of Mexican Petroleum's combined preferred and common stock. Minority holdings of the common total 7,827 shares and of preferred, 1,484 shares.

Quarterly Earnings

The National Supply Co. reports net earnings for the first quarter of 1927 of $1,324,487, equivalent after preferred dividends to $4.51 a share on 265,900 common shares.

Earnings of the Marland Oil Co. in the second quarter of 1927 are estimated at $3,000,000 before interest, reserves and taxes, by E. W. Marland, president of the company. He estimates second quarter interest, reserves and taxes will amount to approximately $5,000,000. This indicates a deficit of $2,000,000 after the various deductions.

Net earnings of the Independent Oil & Gas Co. before depreciation, depletion, and federal taxes, for April were around $215,000, compared with $292,232 in March. After these charges April net was about $21,000, or in the neighborhood of 4 cents a share on 500,000 outstanding shares. This compares with March net of $76,293.

Dividend Meetings

The Mid-Continent Petroleum Corp. declared the regular quarterly dividend of 75 cents a share on the common stock, payable August 1 to stockholders of record July 1.

The meeting of the Independent Oil & Gas Co. directors was adjourned to June 25, due to lack of a quorum. The action on the quarterly dividend of 25 cents was due around April 25 but had to be postponed to May 9, and, on that date, to June 15, due to lack of quorum.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. June20	June13	1927 High	1927 Low	1926 High	1926 Low	1925 High	1925 Low
Amerada Corp.	..	31⅞	31¾	37⅝	27⅝	32¾	24¾	..	..
Atlantic Refining, com.	100	120¼	124½	125⅝	107	128⅝	97	117½	95½
Barnsdall "A"	25	28⅛	28	35½	23½	32½	23½	33½	18⅝
California Petroleum, com.	25	24	24⅝	32⅞	21½	38⅛	30⅞	34⅜	23⅜
Houston Oil	100	159¾	162½	166½	60½	75	50¼	85	59
Independent Oil & Gas	..	19½	19	32⅜	17⅝	34	20¼	41⅜	13½
Louisiana Oil	10	12½	12½	18¼	11⅛	19⅝	12	23⅜	13⅜
Maracaibo	..	14	14½	22⅜	15	27⅜	18⅝	35½	20⅜
Marland	..	35⅝	36	58¼	35¼	63⅝	49¼	60⅛	32⅝
Mid-Continent Petroleum	..	30⅞	31½	39⅜	29	41	25⅜	38	25⅝
National Supply	50	80	79½	95⅜	76	84⅞	55½	71	54⅜
Oil Well Supply	25	37⅜	37⅝	44⅜	31¼	36	30	38	33⅜
Pan American, B	50	59	57¼	66⅜	56⅜	72⅜	56⅛	83⅞	59½
Pan American, Western B	..	21½	20⅝	37⅞	19	46	34	94⅝	37¼
Phillips Petroleum	..	43⅝	43⅝	60¼	39⅜	54⅞	42½	47⅛	36¼
Producers & Refiners	50	29⅜	29½	33⅞	16¾	26	11	32⅝	12½
Pure Oil, com.	..	26⅝	26⅝	33½	26	31	25⅜	33⅜	25½
Royal Dutch, N. Y., sh.	13.40	49⅝	49	54½	48½	57⅜	49⅜	57⅞	48¼
Shell Transport	10	*44½	45¼	49	43⅝	48⅞	42	45	39¾
Shell Union, com.	..	27½	27⅜	31⅜	25⅜	30⅝	24	28⅜	21⅝
Simms Petroleum	10	16⅛	16¼	22⅜	15⅝	28⅝	16½	28½	18¾
Sinclair Consolidated	..	17⅛	17	22⅜	16⅛	24⅛	16⅜	24⅞	17
Skelly Oil	25	27½	27⅝	37⅜	25	37⅛	27	32½	21⅜
Standard of California	25	53⅞	54⅜	60⅜	50⅜	63½	54	67⅛	52½
Standard of New Jersey, com.	25	36⅜	37⅜	41⅜	35⅛	46⅜	37½	47½	38⅜
Standard of New York	25	30⅜	30½	34¼	29⅞	47¼	30⅜	48⅝	40
Sun Oil Co.	..	32⅜	31⅝	34⅞	30	41⅝	30½	43⅞	38½
The Texas Company	25	47⅞	48⅜	58	45	58	48	55	43⅜
Texas Pacific Coal & Oil	10	15½	15	18⅞	12	19½	12⅛	23⅜	11
Tide Water Associated Oil	..	17¼	18	23½	15½	21	17	..	..
Transcontinental	..	8⅜	6⅝	8⅜	3⅜	5½	3	5⅝	3½
Union Oil of California	25	42½	42⅞	56½	39⅝	53⅜	37¼	43⅝	33½
Union Tank, com.	100	113	114	115	95	120⅜	84¼	‡134	118
White Eagle Oil & Refining	..	23⅜	23½	27½	22	29⅜	25⅛	21⅜	25⅝
Standard Oils									
Anglo-American Oil	£1	18½	18½	21⅝	18⅜	19¾	16½	26¾	17½
Borne Scrymser	25	60	55	69	49½	75	65	‡240	205
Buckeye Pipe Line	50	58	59	58	45	59½	42	72	61½
Chesebrough Manufacturing Co.	25	*107	110	107	76½	81¼	63	74	98¼
Continental	10	18	17⅞	22⅝	17½	25⅞	19¼	31½	21⅝
Cumberland Pipe Line	100	91	93	‡137	106	137	102	156	128
Eureka Pipe Line	100	*58½	56	56¼	47	53⅜	43	96	61¼
Galena Signal, com.	100	*8	*9	13½	7½	32½	9⅞	68½	23½
Humble Oil & Refining Co.	25	59	58½	62¾	54	99⅝	52	99	42½
Illinois Pipe Line	100	144	143	150	123¾	144	131	154½	124
Imperial Oil	..	43⅝	43½	47	37⅜	39⅜	32½	39¼	27¼
Indiana Pipe Line	50	68½	70	72½	61	68	52¼	81	87½
International Petroleum Co.	10	30	30½	34⅞	28½	35¼	28⅜	25⅜	22½
National Transit Co.	12.50	15	16	17½	13⅝	30⅜	27¼	25½	16½
New York Transit	100	*36	36	36	31¼	51½	27¼	70	50
Northern Pipe Line	100	88	91	88	70	80½	64	88	67½
Ohio Oil Co.	25	59⅛	57	64¼	52	67⅜	55¾	75¼	60
Penn-Mex Fuel	25	*29	27	31	12	24¼	15	44	19
Prairie Oil & Gas	25	48⅞	48	55½	45⅝	60¼	48	65½	45⅞
Prairie Pipe Line	100	182	171	185	132	137½	122½	129¾	105
Solar Refining Co.	100	182	*180	‡201½	185	212	184½	159	200
South Penn Oil	25	35	36½	41½	34½	50	35	‡157	139
Southwest Pa. Line	100	*66	75	77	55½	56	47½	84	50
Southern Pipe Line	50	*18	*18	‡27¼	24	27	24	‡103	63
Standard of Indiana	25	67⅜	67⅝	74¼	64¼	10½	61⅝	70⅜	6¼
Standard of Kansas	25	16⅜	16½	20⅞	15⅝	36½	16½	46	30¼
Standard of Kentucky	25	112¼	112	122¼	111⅝	134⅜	108	137	114⅜
Standard of Nebraska	25	44⅜	45¼	49½	45	51⅛	42	‡270	231
Standard of Ohio, com.	100	*74	77½	‡354	294	362	192½	369	338
Swan & Finch, com.	25	*16	*17	17	15	21	18	27	12
Vacuum Oil	25	128¾	125¾	134	95½	109¾	94½	109½	80½
Miscellaneous									
Gulf Oil Corp of Pa.	25	93	91½	96½	86¼	95	82½	98¼	63½

*Bid, no sales. ‡Old stock. †New stock.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

June 20	60.46	May 16	58.10	Apr. 11	57.37
June 13	59.91	May 9	58.08	Apr. 4	56.63
June 6	59.27	May 2	57.13	Mar. 28	58.51
May 28	58.68	Apr. 25	57.03	Mar. 21	58.03
May 23	57.39	Apr. 18	57.42	Mar. 14	59.26

PENNSYLVANIA MARKETS

OIL CITY, Pa., June 18.—There was not much change in the Pennsylvania refined market during the past week. Gasoline was not much changed in demand and price was the same. Kerosene was not as good as it should be at this season. Inquiries for fuel oil are picking up and there was some optimism on the part of some of the refiners. Wax showed improvement. Neutrals continued strong with demand good and the product scarce. Cylinder stocks showed signs of strengthening.

W. H. O'CONNOR WINS IN STANDARDIZED GOLF

COLORADO SPRINGS, Colo., June 18.—Standardization of equipment for the petroleum industry may be making wonderful progress but oil men and manufacturers of oil country goods are as far apart as ever on standardization of golf scores, the practice of placing handicaps and alibis as to what prevented each from carrying off the first prize in the big tournament for oil men and petroleum equipment manufacturers held here today. Even W. R. Guiberson, strong exponent of standardization, failed to practice what he preaches when at the big dinner arranged tonight for those taking part in the tournament—the winners, the losers, the alibi spreaders and the mere self-confessed dubs—he sprung numerous surprises in the way of entertainment and failed utterly to follow prescribed specifications for such a dinner.

Figuring on specifications which would meet the unqualified approval of manufacturers, users and everyone else connected with the petroleum industry is child's play compared to the task of Capt. J. F. Lucey and T. D. Davis in arranging the golf tournament and deciding the handicaps. The arrangements were not hard. It was easy to get money for the prizes. E. W. Clark, president of the Institute, merely told the committee to get what it wanted and go as far as it liked, in buying the trophy he put up for the grand prize. Under such circumstances, it well can be imagined the first prize was something worth playing for.

But when it came to deciding handicaps of 200 oil men whose nerves were more or less on edge from strenuous committee meetings, it must be admitted Mr. Davies, chairman of the handicap committee, and Captain Lucey who assisted, had some job.

W. H. O'Connor, purchasing agent of the Marland Oil Co., won the grand prize, a beautiful silver trophy rapidly becoming standard equipment in all homes. Mr. O'Connor had a handicap of 22, which gave him low net of 74 when he shot a 96. F. O. Prior, of the Midwest Refining Co., of Casper, Wyo., won the driving contest. The winners of the different flights in the tournament follow: First flight—W. M. Neckerman, first; Carl A. Young, second; C. M. Barton, third; and David Golding, fourth. Second flight—John R. Suman and Wendell Smith, tied for first and second; W. R. Guiberson, third; John Baxter, fourth. Third flight—H. W. Fletcher, D. S. Faulkner and C. E. Markey, tied for first three places; A. F. Campbell, fourth. Fourth flight—A. W. Peake, first; W. W. Fondren, second; J. Edgar Pew, third; F. Ray McGrew, fourth.

M. G. Brennen, D. B. Harris and C. R. Weiss tied as winners in the blind bogey.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 39)

Phillips Petroleum Co.'s No. 1 Thornton ..... Six bbls. water 1,930-45 ft.; hole full water 3,055-58 ft.; shut down 3,088 ft.

Shaw & Rathke and others' No. 1 Bristow, SE SE Sec. 1, J. H. Gibson Sur. ..... Shut down 500 ft.

W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 ..... Total depth 1,320 ft.; fishing tools.

Stebbins Oil Co.'s No. 2 Higgs, SE cor. Sec. 30, W. T. Scott Sur. ..... New location; rig.

Swensondale Oil Co.'s No. 1 Caton, SW NW Sec. 9, Deaf & Dumb Asylum Lands ..... Shut down 1,665 ft.

Tomberlin et al's No. 1 Oscar Clapp, CSL SW Sec. 37, Blk. 16, T. & P. Sur. ..... Repairs 1,555 ft.

World Oil Co.'s No. 1 Boyd (was W. H. Lee), 12,700 ft. N and 2,130 ft. E of SW. cor., Samuel Jones Sur. No. 266, elev. 1,729 ft. ..... Total depth 2,785 ft.; shut down.

Kingston et al's (was Zeigler) No. 1 Reeves, C SE SE Sec. 164, B. B. B. & C. Sur. ..... Shut down 1,925 ft.

KENT COUNTY

Douglas Oil Co.'s No. 1 Scoggins, Sec. 57, Blk. 7, H. & T. C. Sur. ..... Total depth 2,750 ft.; shut down.

Marland Oil Co. and Texon O. & L. Co.'s No. 1 Bilby, Sec. 41, Blk. K, Thompson Sur. ..... Location.

KINNEY COUNTY

Haveline Oil Co.'s No. 1 Weatherbee, Sec. 21, Blk. 5.... Shut down 4,330 ft.

W. A. Stevens' No. 1 Clamp, Sec. 356, Winters Sur. ..... Shut down 805 ft.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Jones, CSL Sec. 111, Blk. C, H. & T. C. Sur. ..... Hole full water 2,850-62 ft.; drilling 3,012 ft.

Deep Rock Oil Co.'s No. 1 Beavers, CSL Sec. 224, Blk. 44, elev. 1,441 ft. ..... Total depth 2,860 ft.; fishing.

Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,590 ft. W of NE cor. Sec. 31, Blk. 4 ..... Shut down for 10-in. 1,150 ft.

Humble O. & R. Co.'s No. 1 Goode, 1,940 ft. S and 200 ft. W of NE cor. Sec. 7, H. T. & B. Sur. ..... Hole full water 1,710-15 ft.; drilling 1,870 ft.

The Texas Company's No. 1 J. O. Bowden, Sec. 115, Blk. 45, H. & T. C. Sur. ..... Rigging up.

The Texas Company's No. 1 Teague ..... Drilling 775 ft.

LOVING COUNTY

Kingwood Oil Co.'s No. 1 T. O. Moore, C NE Sec. 2, Blk. G-25, Public School Land, elev. 3,120 ft. ..... Top salt 1,210 ft.; show gas 1,600-15 ft.; shut down 2,725 ft.

MITCHELL COUNTY

Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T. & P. Sur. T-1-N ..... Setting 10-in. 800 ft.

Paul Teas' No. 1 Ed Strain, Sec. 82, Blk. 97, H. & T. C. Sur. ..... Total depth 3,510 ft.; plugged back to 1,700 ft.; shot 210 qts. 1,675-1,700 ft.; 700 ft. oil and 300 ft. water in hole.

Magnolia Petroleum Co.'s No. 1 T. L. McKenney, Sec. 26, Blk. 29, T. & P. Sur. T-1-N ..... Drilling 3,350 ft.

Tex-O-Kan Oil Co. and Robert Thraves' No. 1 W. F. Sanders ..... Drilling 565 ft.

B. E. Walter et al's No. 1 J. E. Dollen, NW cor. SW Sec. 11, Blk. 27, T. & P. Sur. ..... Shut down 3,955 ft.; hole full sulphur water.

NOLAN COUNTY

A. G. Malone et al's No. 1 J. B. Carlyle, Sec. 35, Blk. 23, T. & P. Sur. ..... Material on ground.

A. G. Malone et al's No. 1 M. C. McElmurry, Sec. 36, Blk. 20, T. & P. Sur. ..... Spudded and shut down; rig blew down.

J. H. Winemiller Corp.'s (was Peters et al's) No. 1 Booth, Sec. 90, Blk. 21, T. & P. Sur. ..... Shut down 960 ft. for water.

Herbert Oil Co.'s (was McCleskey and others') No. 1 Pepper, SE cor. SW Sec. 29, Blk. 22, T. & P. Sur.... Rigged up and shut down.

Phillips Petroleum Co.'s No. 1 Scott, Sec. 58, Blk. 21, T. & P. Sur. ..... Drilling 3,200 ft.

Zweifel and others' No. 1 Longbotham, C SE Sec. 130, Blk. 1, H. & G. N. Sur. ..... Shut down 1,620 ft.; 10-in. froze at 1,500 ft.

PECOS COUNTY

California Co.'s No. 1 Union Land Co., Sec. 10, Blk. 141, T. & St. L. Sur. ..... Total depth 2,178 ft.; flowing sulphur water; will plug.

California Co.'s No. 1 I. G. Yates..... New location; rig.

Cromwell & Kimberlin's No. 1 Blackman, C NW Sec. 24, Blk. 3, H. & T. C. Sur., elev. 2,393 ft. ..... Top salt 890 ft.; small show oil 1,930 ft.; half bailer oil 1,948 ft.; total depth 2,126 ft.; flowing sulphur water; plugging back to 1,948 ft. to shoot.

M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, I. & G. N. Sur. ..... Drilling 250 ft.

Diamond Petroleum Co.'s No. 1 Blackstone & Slaughter, Sec. 27, Blk. 2-A ..... Location.

Bob Elmore's No. 1 M. Holmes, Sec. 542, Blk. 1, I. & G. N. Sur. ..... Drilling 175 ft.

Garland & Mott's No. 1 El Paso Cattle Loan Co., C NE Sec. 26, Blk. 126, T. & S. L. Sur. ..... Spudding 100 ft.

Geo. A. Henshaw, Jr., No. 1 Snyder, Sec. 29, Blk. 144, T. & St. L. Sur. ..... Location.

Kershaw & Livingston's No. 1 Cannon, SW cor. NE Sec. 54, Blk. A-2, T. C. R. R. Sur. ..... Location.

Mazda Oil Co.'s No. 1 M. A. Smith, NE cor. NW Sec. 24, Blk. 194, G. C. & S. F. Sur. ..... Location.

Mid-Kansas and Transcontinental's No. 2 Yates-B, 1,320 ft. N and E of SW cor. Sec. 61 ..... Drilling 1,055 ft.

Moutray Oil Co.'s (was Pecos Big 3 Oil Co.'s) No. 1 Robertson, Sec. 28, Blk. 10, H. & G. N. Sur. ..... Drilling 360 ft.

Olean Petroleum Co.'s No. 1 Arthur Harral, C SE Sec. 98, Blk. A-2, T. C. R. R. Sur. ..... Location.

Olean Petroleum Co.'s No. 1 G. A. Harral, C SW Sec. 82, Blk. B-3, G. C. & S. F. Sur. ..... Location.

Olean Petroleum Co.'s No. 1 Sherbino Brothers, C NW Sec. 31, Blk. C-4, G. C. & S. F. Sur. ..... Location.

Quinby Oil Co.'s No. 1 Townsite, Sec. 1, Blk. 267, Client Addition Sur., Fort Stockton ..... Shut down 3,440 ft.

Quinby Oil Co.'s No. 2 Bennett, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. ..... 200 ft. oil in hole from 1,216 ft.; shot 20 qts. 1,208-20 ft.; hole full sulphur water 1,452 ft.; total depth 1,457 ft.; shot 130 qts. 1,353-60 ft.; no results; shut down.

Quinby Oil Co.'s No. 1 A. A. Gray, 660 ft. N and 1,320 ft. E SW cor. Sec. 593, Abst. 3,009 ..... Shut down 680 ft.

Red Bank Oil Co.'s No. 1 Arthur Harral, C SE Sec. 35, Blk. C-4, G. C. & S. F. Sur. ..... Location.

Red Bank Oil Co.'s No. 1 McKenzie, C N ½ Sec. 21, Blk. 126, T. & St. L. Sur. ..... Spudding 100 ft.

Seventy-Five Oil Co.'s No. 1 F. A. Perry, C SE NW Sec. 19, Blk. 178, T. E. R. R. Sur. ..... Fishing bit 2,070 ft.

W. R. Shankel et al's No. 1 I. G. Yates, CSL SW SE SE, Sec. 58, Blk. 1, I. & G. N. Sur. ..... Top salt 425 ft.; shut down 930 ft.

Simms Oil Co.'s No. 1 A. J. Dowlin, C NE Sec. 12, Blk. 105, G. C. & S. F. Sur. ..... Location.

Texon O. & L. Co.'s No. 2 I. G. Yates ..... Rainbow show 1,075 ft.; show oil 1,243 ft.; total depth 1,754 ft.; will plug back to 1,245 ft. and shoot.

Texon O. & L. Co.'s No. 3 I. G. Yates ..... Location.

Texon O. & L. Co. and Marland Oil Co.'s No. 1 Blakesley, SW cor. Sec. 90, Blk. 11, H. & G. N. Sur. ..... Top salt 840 ft.; flowing sulphur water 2,095 ft.; drilling 2,295 ft.

John Dropplemann's No. 1 Mrs. L. Hershenson, Sec. 7, Blk. 51, T. & P. Sur. T-10 ..... Top salt 2,640 ft.; drilling 3,660 ft.

World Oil Co.'s No. 1 Serf, SW cor. NE Sec. 10, Blk. 130, T. & St. L., elev. 3,425 ft. ..... Location.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootle est., Sec. 123, Blk. 3, D. & P. Sur. ..... Shut down 2,550 ft.

REAGAN COUNTY

Henshaw & Camp's No. 1 University, Sec. 14, Blk. 48, University Land ..... Rig.

Marland Oil Co.'s No. 1 University-Anderson, Sec. 19, Blk. 55, University Land ..... Location.

Tidal Oil Co.'s No. 1 University, NW cor. NE Sec. 20, Blk. 8, elev. 2,819 ft. ..... Top salt 1,302 ft.; pure lime 2,995 ft.; little anhydrite 3,025 ft.; drilling lime 3,040 ft.

REEVES COUNTY

Deep Rock Oil Co.'s No. 1 Caldwell, C SW Sec. 22, Blk. 58, T. & P. Sur., Twp. 8 ..... Hole full sulphur water 2,590 ft.; shut down 3,855 ft.

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land ..... Spudded 20 ft. and shut down.

Humble O. & R. Co.'s No. 1-B Kloh, C NE Sec. 47, Blk. 56, T. & P. Sur. T-2-S, elev. 2,781 ft. ..... 900 ft. sulphur water 1,760-1,800 ft.; drilling 2,450 ft.

David R. Thompson's No. 1 A. A. Eddins ..... Moving in material.

World Oil Co.'s No. 1 Biggs, C SE Sec. 65, Blk. 112, Public School Land Sur., elev. 3,068 ft. ..... Shut down 1,610 ft.; tools moved to No. 1 Duff.

World Oil Co.'s No. 1 Duff ..... Total depth old hole 1,400 ft.; shut down 1,675 ft.

RUNNELS COUNTY

Associated Petroleum Co.'s (was Bell & Moore's No. 1 W. W. King), 1,200 ft. W of NE cor. Lge. 14, J. V. Cobrera Sur. ..... Spudded and shut down.

Moore & Bell's No. 1 Ferguson, 2,640 ft. S and 1,320 ft. E of NW cor. F. J. Ford Sur. No. 152 ..... Spudded and shut down.

Noble Oil Co.'s No. 1 Simms, Sec. 12, J. J. McHenry Sur... Drilling 1,240 ft.; 15 bbls. salt water per hour; running 10-in.

Lou Ladd et al's (was Frank Yates') No. 1 R. M. McMillan ..... Small show oil and gas 545-62 ft. and 590 ft.; drilling 2,219 ft.

Rhome et als No. 1 R. M. McMillan, Sec. 532, Domingo Diaz Sur. ..... Hole full water 2,017 feet; total depth 2,023 ft.; to set 6-in. casing.

SCHLEICHER COUNTY

Beavers & Leath et al's No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. O. Sur. ..... Spudded and shut down.

Thomas Grey et al's No. 1 Ball Robinson, C NW Sec. 25, Blk. M, G. H. & S. A. Sur. ..... Shut down 1,100 ft.

SCURRY COUNTY

Northwest Co.'s No. 1 T. C. Stinson, NE NW SW, Sec. 101, Blk. 97, H. & T. C. Sur. ..... Tested 8 bbls. 1,745 ft.; another pay at 3,402-07 ft.; bailed 70 bbls. oil in 4 hours and bailed dry; drilling 4,485 ft.

STERLING COUNTY

Inland Oil Co.'s No. 1 Durham, Sec. 12, Blk. T, T. & P. Sur. ..... Location.

J. P. Williams' No. 1 Clark, NE NE SW Sec. 7, Blk. 8, G. C. & S. F. Sur. ..... Shut down 1,089 ft.; making 3 bbls. oil; top pay 1,079 ft.

L. Little's No. 1 Fisher Bros., Sec. 1, Blk. T, T. & P. Sur... Drilling 1,040 ft.

Orr et al's No. 1 Neal Reed, CNL Sec. 15, Blk. 30, W. & N. W. Sur. ..... Moving in tools.

STONEWALL COUNTY

J. P. Johnson's No. 1 R. P. Morrow ..... Location.

R. F. Garland & Co.'s (was McCamey & Zoch's) No. 1 J. Ward, C SW Sec. 153, Mrs. Ward Dobbs Sur., 3 mi. NW of Aspermont ..... Fishing tools 2,140 ft.

TAYLOR COUNTY

A. J. Brown et al's No. 1 Henslee, NE cor. Sec. 5, Blk. 4, S. P. R. R. Sur. ..... Shut down 780 ft.; tools in hole.

Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T. & P. Sur., elev. 1,904 ft. .. Shut down 455 ft.

Gilbert Johnson's No. 1 C. M. Brown, Sec. 1, Blk. 6, T. & P. Sur. ..... Spudded and shut down.

W. E. Halbert et al's No. 1 Hunt, C SE Sec. 124, Blk. 64, H. & T. C. Sur. ..... Shut down 1,960 ft.

Humble O. & R. Co.'s No. 1 Mattie Jacobs, Sec. 1, Nabors Sur. ..... Total depth 2,520 ft.; pulling 8-in.

Midwest Explin. Co.'s No. 1 Dora Smith, Jose Gabo. Sur... Hole full salt water 3,275-80 ft.; shut down for orders 3,280 ft.; enough gas to burn.

Morrison & Thompson's No. 1 Mrs. Alice Rose, SW cor. NE Sec. 29, Blk. 19, T. & P. Sur., elev. 1,925 ft. ..... Fishing casing 2,540 ft.

Owen & Sloan's No. 1 Lattimer, Sec. 14, Blk. 9, T. & P. Sur. ..... Total depth 1,970 ft.; running 8-in.

Roeser & Pendleton's No. 1 Sam Hutman, C W ½ NW Sec. 64, Blk. 5, T. & P. Sur. ..... Total depth 710 ft.; running 12-in.

Sanger O. & R. Co.'s No. 1 Ike Brown, NE cor. Sec. 54, Blind Asylum Land ..... Drilling 2,200 ft.

Sanger O. & R. Co.'s No. 1 Stem..... Location.

World Oil Co.'s No. 1 J. R. Griffith, SW cor. NE Sec. 32, Blind Asylum Land, elev. 1,747 ft. ..... Drilling 2,840 ft.

TERRY COUNTY

Kingsland Oil & Potash Co.'s No. 1 Brownsfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur. — Fishing for 10-in. 1,235 ft.

TOM GREEN COUNTY

Camp's No. 1 H. D. Wilkey, Sec. 4, B. A. L. Sur. — Fishing bailer 447 ft.
Fitzgerald et al's No. 1 Bennett — Drilling 120 ft.; caving.
Marland Oil Co.'s No. 1 Llano, 3,500 ft. S and 13,000 ft. W of NE cor. Llano Co. School Land No. 964 — Total depth 3,105 ft.; straight-reaming at 3,030 ft.
Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 162, Blk. 11, S. P. R. R. Sur. — Moving in material; new location.

UPTON COUNTY

Beaty et al's No. 1 J. F. Lane — Top salt 880 ft.; sulphur water 2,370 ft.; show oil 2,250-65 ft.; total depth 3,550 ft.; will plug.
W. W. Donnelly et al's No. 1 University, C SW Sec. 21, Blk. 4, University — Top salt 1,560 ft.; shut down 3,780 ft.
Hults et al's No. 1 Giddings, C Sub. Sec. 12, Throckmorton Co. School Land — Top salt 1,515 ft.; shut down 3,615 ft. for pipe.
Hults et al's No. 2 Giddings, 5,336 ft. S and 6,678 ft. E of NW cor. Throckmorton Co. School Land, league 1.. — New location; rig.
Levi Smith and Marland's No. 1 University, C E ½ Sec. 17, Blk. 5, University Land — Drilling by tools 110 ft.
Marland Oil Co.'s No. 3 Burleson, T. C. Jones Sur. No. 100 — First pay 2,205 ft.; second pay 2,295 ft.; 2,000 ft. sulphur water 3,390-95 ft.; 1,000 ft. sulphur water 4,135 ft.; drilling 4,550 ft.
Marland Oil Co.'s No. 34 Burleson, Sec. 100, T. C. Jones Sur. — Shut down 3,255 ft.
Simms Oil Co.'s No. 1 B. C. Clark, NE cor. SW, Sec. 5, G. C. & S. F. Sur., elev. 2,473 ft. — Top salt 470 ft.; top lime 1,718 ft.; sulphur water 1,834-50 ft.; total depth 2,100 ft.; fishing two strings tools.
Wise & Jackson's No. 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E — New location.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore est., Sec. 183, J. Mitchell Sur. — Shut down 3,000 ft.
Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur. — Fishing 2,940 ft.
Douglas Oil Co.'s No. 1 Sellars, C SE Sec. 82, Blk. A, I. & G. N. Sur. — Rig burned 2,940 ft.
East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur. — Shut down 3,142 ft.; cleaning out.
Hiawatha Oil Co.'s No. 1 Sellars, C Sec. 1,031, Blk. A, I. & G. N. Sur. — Hole full salt water 2,455 ft.; straightening hole 2,640 ft.
Magnolia Petroleum Co.'s No. 1 Whitehead, Sec. 81, Blk. D, G. C. & S. F. Sur. — Shut down for fishing tools 190 ft.
Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I. & G. N. Sur. — Shut down 3,900 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I. & G. N. Sur. — Flowing sulphur water 2,300-25 ft.; fishing casing 2,440 ft.

WARD COUNTY

Marland Oil Co.'s No. 1 J. Sealey, C SE Sec. 78, Blk. A. G. M. M. & A. Sur., elev. 2,820 ft. — Hole full fresh water 970-80 ft.; top salt 1,100 ft.; hole full sulphur water 3,245-48 ft.; run 6-in. 3,294 ft.; drilling wet hole 3,494 ft.

WINKLER COUNTY

Atlantic O. P. Co.'s No. 1 Hendricks, Sec. 34, Blk. B-5.... — Drilling 900 ft.; tight hole.
Champlin Drilling Co.'s No. 1 C. W. Cowden, C SW Sec. 21, Blk. C-23, Public School Land, elev. 2,889 ft. .... — Hole full water 2,385 ft.; shut down 2,425 ft.; 6-in. frozen.
Gulf Prod. Co.'s No. 1 O'Brien, SW C Sec. 28, Blk. F, G. M. M. & A. Sur. — New location; moving in rig.
Group 1 Humble O. & R. Co.'s No. 1 T. G. Hendricks, C SE Sec. 36, Blk. 27 — Shut down 820 ft.
Humble O. & R. Co.'s No. 1 T. G. Hendricks, S and W NE cor. W ½ NE Sec. 33, Blk. B-5, Public School Land — Drilling 780 ft.
Independent O. & G. Co.'s No. 1 Hendricks-A — Drilling 1,500 ft.
Independent O. & G. Co.'s No. 2 Hendricks-A — Drilling 200 ft.
McCullough Oil Co.'s No. 1 Tobe Morton, CEL Sec. 20, Blk. B-12, Public School Land — Hole full salt water 1,940 ft.; fishing 2,005 ft.
L. D. Ladd, Hill et al's No. 1 Amburgey, C NW Sec. 24, Blk. B-7, Public School Land Sur., elev. 3,033 ft... — Top salt 1,220 ft.; top lime 3,305 ft.; total depth 3,447 ft.; rig burned; tools moved away.
R. S. Matthews et al's No. 1 State, C Sec. 7, Blk. A-57, Public School Land Sur., elev. 3,120 ft. — Shut down 750 ft.
Pure Oil Co.'s No. 1 Hendricks, SW cor. Sec. 41, Blk. B-5, Public School Land — Total depth 1,552 ft.; underreaming 10-in.
Pure Oil Co.'s No. 2 Hendricks — Cementing 8-in. 2,479 ft.
Roxana Petroleum Corp. and Llano Oil Co.'s No. 1 Scarborough, C Sec. 1, Blk. C-22, Public School Land, elev. 2,921 ft. — Top salt 1,115 ft.; hole full water 1,321 ft.; 10-in. set 1,570 ft.; top pay 2,990 ft.; second pay 3,121-26 ft.; testing.
Skelly Oil Co.'s No. 1 M. M. Leeman, 1,320 ft. E of SW cor. Sec. 21, Blk. 75, elev. 2,951 ft. — Top salt 1,167 ft.; drilling 4,690 ft.
Southern Crude Oil Pur. Co.'s No. 3-C Hendricks, SE cor. NE Sec. 33, Blk. B-5 — Top salt 1,870 ft.; little gas 2,630-40 ft.; shut down for orders 2,735 ft.; making 2,000,000 ft. gas and 1 bbl. oil.
Southern Crude Oil Pur. Co.'s No. 4-C Hendricks — Cementing 8-in. 2,525 ft.
Southern Crude Oil Pur. Co.'s No. 1 Hendricks A-1, SE cor. NE Sec. 44, Blk. 26 — Cementing 8-in. 2,371 ft.
Southern Crude Oil Pur. Co.'s No. 1 Hendricks-D, SE cor. NE NW Sec. 4, Blk. B-12 — New location; moving in material.
Southern Crude Oil Pur. Co.'s No. 1-F Hendricks, Sec. 33, Blk. B-5, NE cor. SE. — Rigging up rotary.
Texon O. & L. Co.'s No. 1 Central State Bank, SW cor. W ½ SE Sec. 41, Blk. B-5 — Drilling 1,490 ft.
White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 R. A. Lock, 1,320 ft. W of NE cor. Sec. 30, Blk. 74, NW of discovery well — Drilling 1,090 ft.

WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 40)

Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1 — Drlg., 3,850 ft.
Donley Gray Oil Co.'s No. 1 J. W. Gordon — Rig.
Jack Doyle's No. 1 D. W. Osborne, SE cor. Sec. 109, Blk. 3 — Rig.
Edwards et al's No. 1 E. D. Case, NE cor. Sec. 182, Blk. B-2, H. & G. N. Sur. — Drlg., 200 ft.
Empire G. & F. Co.'s No. 1 J. E. Cubine, NE cor. NW Sec. 36, Blk. 25 — First gas, 2,229 ft; increase, 2,300 ft; drlg., 2,325 ft.
Empire G. & F. Co.'s No. 1 J. A. Hood, SW cor. SE Sec. 33, Blk. 3 — Drlg., 1,650 ft.
Empire G. & F. Co.'s No. 1 J. M. Saunders, SW cor. SE Sec. 4, Blk. 8 — 10-in. pipe set, 2,005 ft.
Empire G. & F. Co.'s No. 1 J. F. Meers, NE cor. SE Sec. 107, Blk. 3 — Swabbed 184 bbls. from granite wash, 3,116-50 ft.
Empire G. & F. Co.'s No. 1 J. J. Wall, Sec. 161, Blk. 3.. — T.D., 2,930 ft; S.D; 43,000,000 ft. gas; closed in; to drill deeper.
Empire G. & F. Co.'s No. 1 Webb, SW cor. Sec. 59, Blk. 25; elev. 2,534 ft. — Drlg. by whipstock, 3,455 ft.
Lefors Pet. Co.'s No. 1 Leach, Lefors Townsite — Rig on ground.
Gladis Gray's No. 1 Colebank-Morse (was Foster et al's No. 1 G. Cutebank), SW cor. NE Sec. 65, Blk. 25.... — 2,905 ft., T.D; plugged back to 2,803 ft; shot 160 qts., 2,430-2,510 ft; 1,200 ft. oil in hole; bailed dry.
Gulf Prod. Co.'s No. 1 Bowers, Sec. 89, Blk. B-2 — Drlg., 960 ft.
Gray County Pet. Co.'s No. 1 Herndon, Sec. 147, Blk. 3.. — Drlg., 3,125 ft.
Gray County Pet. Co.'s No. 1 A. Chapman — Rig.
John G. Lane's No. 1 A. Chapman, Sec. 19, Blk. A, C. & H. B. Sur. — Dry and abd., 3,315 ft.
Neudigate et al's No. 1 A. Chapman, NE cor. E half SE Sec. 52, Blk. 25 — S.D., 1,835 ft. for 8¼-in. cas.
Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3.. — S.D., 910 ft.
Pampa Pet. Co.'s No. 1 Mary Leopold, Sec. 141, Blk. 3.. — Water, 3,230-60 ft; slight oil show in granite wash, 3,572-75 ft; S.D.
Petroleum Explin. Co.'s No. 1 L. C. McConnell, SE cor. NW Sec. 174, Blk. 3 — Spud.
Purple Sage Oil Co.'s No. 1 Johnson, Sec. 8, Rockwell County school land — First oil show, 2,645 ft; water, 2,660 ft; show oil in granite wash, 2,790-95 ft; 8-in. casing set, 2,803 ft; show gas, 2,814 ft; S.D; no gas.
Riley & Heck's No. 1 Mrs. Hopkins, Sec. 66, Blk. 2-B.... — Show oil, 3,020 ft; dropped 6-in. casing in hole; drlg. by 11 joints 6-in.
Rensoul Pet. Co.'s (was Salisbury & Reynolds') No. 1 M. Huselby, C SE NE NE Sec. 55, Blk. 25, H. & G. N. Sur. — Flow, 30 bbls. daily from granite wash topped, 2,407 ft; drlg. by tools.
Roxana Pet. Corp.'s No. 1 Combs & Worley, NE cor. NW, Sec. 39, Blk. 3 — Drlg., 700 ft.
Roxana Pet. Corp.'s No. 1 R. S. McConnell, NE cor. E half SW, Sec. 174, Blk. 3 — Drlg., 610 ft.
C. B. Shafer's No. 1 G. Cole, SE cor. W half SW Sec. 105, Blk. 3 — Fish. for pipe, 3,313 ft; 2,000 ft. oil in hole.
Sullivan et al's No. 1 fee, NW cor. E half SW, Sec. 1, Blk. 1, A. C. H. & B. Sur. — Cellar.
The Texas Company's No. 1 J. B. Barrett, NE cor. NW NW, Sec. 130, Blk. 3 — Run. liner, 2,000,000 ft. gas, 3,115-20 ft.
J. Williams et al's No. 1 C. W. Bradford, Sec. 123, Blk. B-2 — Rig temporarily abd.

HARTLEY COUNTY

Amerada Pet. Corp.'s No. 1 Frances Farwell, Sec. 27, Blk. 16 — Flowing 5 bbls. salt water per hr. from 3,745 ft; to abandon.

HALE COUNTY

Engleking Drlg. Co.'s No. 1 Mulligan, C Sec. 21, Blk. B, R. M. Thompson Sur. — S.D., 535 ft.
Deep Rock Oil Co.'s No. 1 Lymann & Balfour, Sec. 5, Blk. 2 — Show gas and rainbow of oil, 3,560 ft; drlg. ahead, 2,789 ft.
Eslick et al's No. 1 J. B. Irving, Sec. 13, Blk. 13 — Topped granite wash, 3,108 ft; show oil, 3,226 ft; drlg.
J. E. McKanna's No. 1 Frances Farwell, Sec. 30, Blk. 22. — Drlg., 2,570 ft.
J. E. McKanna's No. 1 J. M. Shelton est., Sec. 29, Blk. 202 — S.D., 3,595 ft; cas. trouble; rig blown down; rebuilding rig.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller est., Sec. 4 — Spudded and S.D.
Hoover et al's No. 1 fee, J. S. Hood Sur. — Drlg., 4,440 ft.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 1 Ida Ingerton — Fish., 2,075 ft.
Anderson & Pritchard's No. 2 William Yake, SW cor. NW, Sec. 1, Blk. J, H. & G. N. Sur. half mile W of No. 1 — Rigged.
R. G. Barnum et al's No. 1 Garland Sanford, Sec. 78, Blk. 46 — Rig.
Beam et al's No. 1 Cockrell, Sec. 3, Blk. 23 — S.D., 405 ft. for orders.
Berryman Oil Co.'s No. 1 Sanford, Sec. 83, Blk. 46, H. & T. C. Sur. — 80,000,000 ft. gas, 2,690-2,905 ft; show oil, 2,915 ft; drlg., 2,945 ft.
Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y — Drlg., 750 ft.
Conklin et al's No. 1 Johnson, Sec. 1, Blk. XO3, H. & O. B. Sur. — S.D. 600 ft. for 12-in.
Great Plains Oil Co.'s No. 1 Bivins, Sec. 13, Blk. Y2, T. T. R. R. Sur. — Show gas, 2,325 ft; drlg., 2,400 ft.
Great Plains Oil Co.'s No. 1 Kingsland, Sec. 4, Blk. Y — Drlg., 2,010 ft.
Golden Eagle Oil Corp.'s No. 1 J. Q. Bost, Sec. 6, Blk. Y-2 — Derrick.
McMan O. & G. Co.'s No. 1 Albert Yake — Spudding.
Marland Oil Co.'s No. 1 Carver, Wm. Heath Sur. — Drlg., 3,770 ft.
Panfield Oil Co.'s No. 1 Luginbyhl Bros., Sec. 50, Blk. M-23 — S.D., 1,200 ft.
Pole Cat Oil Co.'s No. 1 W. B. Haile, Sec. 24, Blk. M-21.. — Drlg., 2,550 ft.
Phillips Pet. Co.'s No. 1 Yake, Sec. 36, Blk. 46 — Topped pay, 2,820-50 ft; 1,800 ft. oil in hole.
Prairie O. & G. Co.'s No. 1 J. M. Sanford, SW cor. N half Sec. 85, Blk. 46 — Drlg., 2,000 ft.
Prairie O. & G. Co. and Vacuum Oil Co.'s No. 1 Cal Merchant — Drowning out 75,000,000 ft. gas, 2,252-2,470 ft; T.D., 2,550 ft; fishing.
Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson — Drlg. by tools, 2,515 ft.
Sweeney et al's No. 1 Johnson, Sec. 35, Blk. Y — S.D., 1,780 ft.
U. S. Oil Corp.'s No. 1 Johnson, Sec. 35, Blk. Y — S.D. for water, 1,920 ft.
Vitek Oil Co.'s No. 1 W. F. Allen, Jose Rodriguez Sur. .. — S.D., 180 ft.

KING COUNTY

Gibson & Johnson's No. 1 Burnett est. — Salt water, 2,525-50 ft; run, 8-in. to 2,576 ft.
Midwest's No. 1 Patton — Drlg., 2,260 ft.
J. L. Pattison's No. 1 Patton — S.D., 2,065 ft.
Phillips Petroleum's No. 1 — Drlg., 3,175 ft.
Sinclair — Drlg., 2,320 ft.
White Eagle's No. 1 — S.D., 2,640 ft. for 8-in. shoe.

LIPSCOMB COUNTY

Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 43 — S.D., 600 ft.
McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 104, Blk. 43, H. & T. C. Sur. — Drlg., 3,713 ft. in new hole.
Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW, Sec. 100, Blk. 43 — S.D., 2,565 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 2 Terry Thompson, Sec. 19, Blk. 44. — Making 34,000,000 ft. gas; lime, 3,425 ft; fish.
Douglas Oil Co.'s No. 1 H. M. Beauchamp, Sec. 112, Blk. 44 — 12,000,000 ft. gas, 3,425 ft; 6-in. cas. set, 3,470 ft; drlg., 3,495 ft.
Marland Oil Co.'s No. 1 J. T. Sneed, Jr., Sec. 25, Blk. 1.. — Half bailer water per hr., 3,152-3,202 ft; plug. back for gas.
Moore County Oil Co.'s No. 1 Sneed, Sec. 30, Blk. 6-T .. — Drlg., 2,376 ft.
Shadler Bros.' No. 1 John Lowery, Sec. 237, Blk. 44 .... — U.R. 8-in. pipe, 1,650 ft.
Skelly Oil Co.'s No. 1 Armstrong & Byrd — U.R. 12½-in. pipe, 1,185 ft.
Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21. — Rig.

OCHILTREE COUNTY

W. G. Burton's No. 1 Stickler, Sec. 579, Blk. 43 — S.D., 3,910 ft.
Hamilton et al's No. 1 R. E. Wamble, Sec. 144, Blk. 43.. — S.D., 250 ft.
McCorkle Pipe Line Co.'s No. 1 R. H. Moore, Sec. 471, Blk. 43 — S.D., 1,600 ft.
McCorkle's No. 1 Weinett, Sec. 674, Blk. 43 — Fish., 550 ft.
Standard Dev. Co.'s No. 1 Bowden, Sec. 923, Blk. 43 .... — S.D., 900 ft.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landergin, SE cor. NE SW Sec. 46, League 310, Capital land — 8-in. set 3,351 ft; drlg., 3,690 ft.

PARMER COUNTY

Humble O. & R. Co.'s No. 1 Farwell; elev. 4,005 ft ..... — Ordered plugged and abd. at 3,503 ft.

POTTER COUNTY

Del Rio Oil Co.'s No. 1 River Bed, Sec. 106, Blk. 46, H. & T. C. Sur. — Rig.

SHERMAN COUNTY

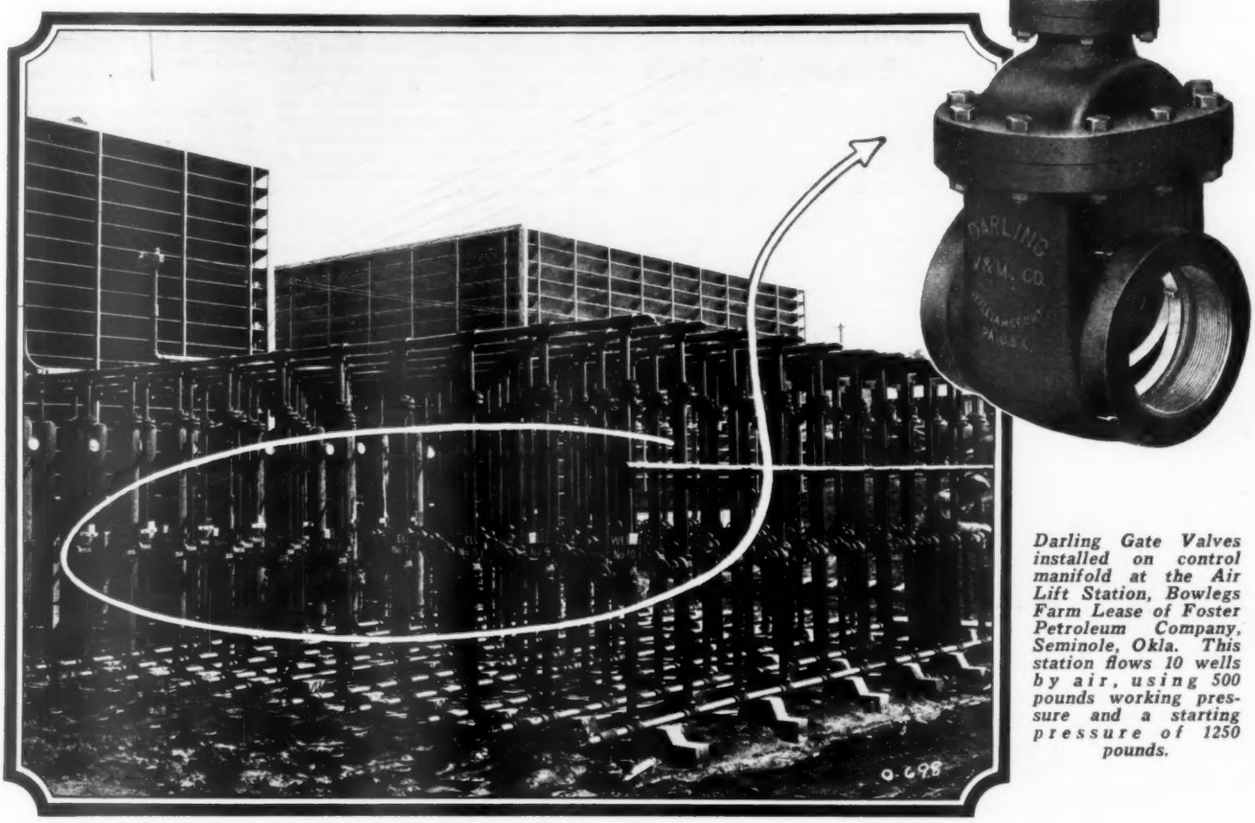
Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk. 3-B — Drlg., 1,390 ft.
Hagy & Harrington's No. 1 S. F. Flores, C SW Sec. 64, Blk. 3-T, T. & N. O. Sur. — Drlg., 500 ft.
Phillips Pet. Co.'s No. 1 Price & Fuqua, C NE, Sec. 33, —

WHEELER COUNTY

J. J. Rook's No. 1 M. Mertel, SE NE Sec. 4, Blk. 24, H. & G. N. Sur. — Making 40,000,000 ft. gas; fish., 1,985 ft.
E. L. Woodley, Jr.'s No. 1 Woodley, Sr., Sec. 13, Blk. 5-A. — Show oil, 2,227 ft; S.D. 2,349 ft.
Watchorn O. & G. Co.'s No. 1 F. E. Shelton, C NE NE Sec. 22, Blk. 24 — Gas broke in at 2,007 ft; mudding off.
The Texas Company's No. 1 B. P. Sewell — Set 10-in., 1,555 ft.
Tidal Oil Co.'s No. 1 W. E. Bentley — Drlg., 1,760 ft.

Darling Gate Valves

making good at Seminole in 10-well air-lift service



Darling Gate Valves installed on control manifold at the Air Lift Station, Bowlegs Farm Lease of Foster Petroleum Company, Seminole, Okla. This station flows 10 wells by air, using 500 pounds working pressure and a starting pressure of 1250 pounds.

ONCE MORE Darling Gate Valves demonstrate their special adaptability to the requirements of modern oil well operation. Their high tensile strength and Extra Heavy construction withstands equally well the normally high working pressure and the unusually high starting pressures required in air-lift service.

The exclusive Darling construction features have placed Darling Gate Valves ace high with oil well operators for all types of valve service.

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TRADE DARLING MARK

DARLING GATE VALVES

TRADE DARLING MARK

Arthur M. Donnelly, Wealthy Oil Producer, Dies in Ft. Worth, Tex.

FORT WORTH, Tex., June 17.—Arthur M. Donnelly, 64, president of the Eastland Oil Co. and the A. M. Donnelly Drilling Co., both of Fort Worth, died at his home at 3 o'clock Wednesday morning. He had been in failing health for several months, and had been critically ill for several weeks.

Arthur Donnelly's life exemplified the possibilities of success of an American boy with brains and determination. As a boy in Bradford, Pa., he had to get out into the world early to make a living, starting out by driving a team. Soon he

—Photo by Reid.
Arthur M. Donnelly

owned the team and later became a teaming contractor. While in his twenties he went into the business of laying gas lines and oil pipe lines. This gave him intimate contact with Standard officials and T. N. Barnsdall, for whom he filled numerous contracts.

The then well-known firm of Roth & Maire Brothers saw the possibilities of young Donnelly and he became an associate of that organization in the laying of the first gas line in East Buffalo, N. Y. He helped organize and was made president of the Phoenix Fuel, Light & Water Co. of Phoenix, N. Y., which supplied natural gas to a number of northern New York towns. He disposed of his business in that territory and came to the Mid-Continent Field, going first to Nowata, Okla., in the early days of Oklahoma development, and there secured his first production, operating for himself, while engaged as a drilling contractor in that field. Later he moved to Tulsa, where he resided for a number of years—before coming to Fort Worth in 1919. After coming here he engaged in operations in Eastland County, calling his company the Eastland Oil Co. from the scene of his operations. He drilled the discovery well in the Martin Pool of Eastland County. He was also active in the Westbrook area of Mitchell County, the Artesia Pool in New Mexico, and in the Blake Pool in Brown County.

Drilled Crane Gusher

His firm, as contractors, drilled the discovery well in Eastland County, and as operators took a promment part in the development of the University Pool in Crane County, drilling the first "gusher" in that pool in association with O'Keefe & Collett.

Mr. Donnelly is survived by a brother. John D. Donnelly, of Fort Worth; a sister, Mrs. Lou Shraeder of Turtle Creek, Pa.; his wife, Mrs. Katherine A. Donnelly, and the following children: Sons, Garrett J. Donnelly of Fort Worth, George A. and Walter J. Donnelly of Eastland, and Francis E. Donnelly of Artesia, N. Mex.; daughters, Mrs. T. F. Vickers of Tulsa, Mrs. J. T. Ruddell of Fort Worth, and Mrs. Anna Foster of Fort Worth.

His sons were all engaged in business with the father. Donnelly was a member of the Fort Worth Club, and of St. Mary's Catholic Church, where funeral services were held at 9 o'clock this morning. Interment was at Greenwood Cemetery.

Will Try to Limit Drilling North of Empire's Big Well

Ray M. Collins, umpire in the Seminole, Oklahoma shutdown movement, will make every effort to curtail drilling north of the Empire Gas & Fuel Co.'s big new well in Section 3-9-5, Earlsboro. There is no way to stop the drilling of wells between the Empire well and other production, but a curtailment agreement among lease owners beyond the Empire well, (which is on the most northerly line of producing wells) may be effected, Mr. Collins believes.

There are about 60 wells shut down by agreement, pinched in or entirely shut in, in the Seminole area in Sections 19, 24, 25 and 30-7-4; Section 24-9-5; Sections 1 and 22-7-6; Sections 2, 5, 8, 10, 12, 16, 22, 23, 24, 32, 33 and 34-8-6; Sections 10, 13 and 25-9-6; Sections 22 and 30-10-6, and Section 31-9-7.

The most important of the shut-in wells is that of the Indian Territory Illuminating Oil Co. in Section 1-7-6, south of the Bowlegs Pool, which is believed by some operators to have opened another distinct pool of importance. Umpire Collins expects to work out an agreement among the producers in that area which will limit the production of the pool. The I. T. I. lease will expire in a short time and it will be necessary for the company to drill the well in to hold the lease. The agreement would permit other companies in the neighborhood to start their drilling wells and would permit the I. T. I. company to exercise its discovery right of producing its well without stint until the first of the other wells come in, whereupon the I. T. I. well would be pinched down to 100 bbls. a day and the other wells would limit their production to 100 bbls. a day until such time as conditions warranted a greater production.

The Seminole producers have eliminated a great deal of intensive drilling and natural competition through co-operation and agreements, Mr. Collins says. For example he cites the Prairie Oil & Gas Co. with a well in Section 24-9-5 pinched in to 75 bbls. a day, thus allowing the offset leases to pay a one-eighth royalty which stopped the drilling of 7 to 10 wells; Gypsy Oil Co.'s well in Section 33-8-6 pinched in to 75 bbls., stopping the drilling of 15 to 20 wells; Barnsdall Oil Co.'s well in Section 22-7-6, shut down at 4,152 feet; Indian Territory Illuminating Oil Co.'s well in Section 16-8-5, shut down at 4,097 feet; Gypsy Oil Co.'s well in Section 5-8-6, shut down in the Viola lime, and the agreement by the Prairie Oil & Gas Co. to pinch in its wells or produce from the Hunton lime in Sections 17, 22 and 30-10-6. If any of the above wells were drilled into the Wilcox sand and made good producers, there would be from 5 to 20 wells started around each well, in the opinion of Mr. Collins.

'If the producers were not in accord with this movement," Mr. Collins said, "there would be 200 more wells drilling, with the prospects of the pipe lines not being able to take care of the additional oil which would be brought to the surface."

R. L. STEINER DIES SUDDENLY

R. L. Steiner of Wichita Falls, Tex., president of the Steiner Oil Corp., and a well-known operator in Texas, died suddenly at the Mayo Hotel, Tulsa, Tuesday morning. Death was due to heart paralysis.

Technical Relations Committee of A. P. I. At French Lick, Ind.

FRENCH LICK, Ind., June 20.—The technical relationship committee appointed by the American Petroleum Institute board at the Tulsa meeting last December is meeting here on the eve of the meeting of the American Society for Testing Materials. Those present are E. W. Isom, Sinclair Refining Co., chairman; Ralph Halloran, Standard Oil Co. of California; E. De Golyer, Amerada Petroleum Corp.; T. G. Delbridge, Atlantic Refining Co.; Wallace Pratt, Humble Oil & Refining Co.; K. G. Mackenzie, The Texas Company; R. E. Wilson, Standard Oil Co. of Indiana, and R. P. Anderson and W. R. Boyd, Jr., of the American Petroleum Institute.

The technical relationship committee was appointed following a discussion of the wisdom of centralizing and concentrating the technical and scientific activities relating exclusively to petroleum within the institute. Some difference of opinion developed in the technical societies accustomed to holding sessions devoted to petroleum problems, and the present meeting was called for further consideration of the subject. No definite report has yet been drawn and so far the discussion has been general, with the indications pointing to a unanimous report recommending organization for certain phases being finally adopted.

STANDARDIZATION NOW UP TO SUPPLY USERS

(Continued from Page 29)

made at the meeting by W. H. O'Connor, of the Marland Oil Co. On the recommendation of Mr. O'Connor it was decided that a purchasing agent be placed on each standardization committee to assist in the work of the committee and aid in getting standardized equipment more widely used.

Carl A. Young, director of standardization for the American Petroleum Institute, and his assistant, J. E. Stillwell, deserve great credit for the manner in which the conference here was handled. Every detail had been planned in advance and every facility had been arranged to aid the committees in expediting their work.

GASOLINE CONTRACTS DISCUSSED BY TRADE

(Continued from Page 28)

fered. All are trying to get away from the spot market as the sole basis for contracts.

During the past month a new agreement has been under consideration by several refinery organizations and is being discussed in the trade. So far as known, the contract has not actually been offered the trade and may be altered somewhat before that is done.

This proposed agreement ignores entirely the spot market established by sales made from day to day for immediate or prompt delivery. It is based on what is termed a "crude factor," through which the price of crude oil is considered in the price received by the refiner for his gasoline, and a "gasoline factor," which takes into consideration the retail price received for the gasoline.

The crude factor is determined by doubling the price of 36 gravity oil at the well as posted by the major purchasing companies. This is considered a criterion of the cost of refining the gasoline on a basis of a 50 per cent recovery of gasoline from the crude. The gasoline factor starts with the retail price at the point of delivery. From this is subtracted the sum of the gasoline tax, freight charge from refinery to point of delivery plus a 5-cent differential, which is assumed to cover all actual bulk and service station costs in the distribution of the product.

With the crude factor and the gasoline factor determined, the two factors are added together and divided by two. The latter figure is the price received by the refiner at his plant. The following table shows how this contract would have worked out had it been effective so far this year in shipments to Chicago:

Month—	Crude Factor	Gasoline Contract Factor	Price	Spot †Market
January	9.05	11.97	10.51	8.31
February	8.77	11.62	10.19	8.44
March	6.54	10.62	8.58	6.85
April	6.1	10.62	8.36	6.31
May	6.1	9.2	7.7	6.45
*June	6.1	8.62	7.36	6.62

*Three weeks. †Based on low weekly quotations of The Oil and Gas Journal. Prices are for 58-60 U. S. Motor gasoline in cents per gallon.

Method Explained

The manner of determining the above data will probably be clearer if the June figure is explained. The present price for 36 gravity crude in Oklahoma is 3.05 cents a gallon. Multiplying this by two gives the crude factor of 6.1 cents. The present service station price in Chicago is 16 cents. Illinois does not have a gasoline tax, so that does not need to be considered in this example. The freight rate to Chicago from Oklahoma is 2.38 cents per gallon. Adding this to the 5-cent marketing margin and subtracting the sum of 7.38 cents from the 16 cents gives 8.62 cents, which is the gasoline factor. The average of the crude and gasoline factors is 7.36 cents, which represents the price the refiner would receive at present time if this contract was effective. This compares with the present low spot market quotation of 6.625 cents in Oklahoma.

The table shows that this type of contract would have averaged consistently higher than the spot market so far this year. This contract, as previous'y explained, has not been perfected in all its details, and the foregoing is offered only in explanation of the general workings of such an agreement.

Regardless of whether or not this type agreement ever receives the approval of the trade, it cannot be denied that it comes closer to being an equitable agreement between refiner and jobber than any that has been suggested. It is based on the principle that the refiner and jobber both should be protected against operating at a loss, with a division of any profits which may accrue to their joint operations. This plan in the final analysis is the principle on which the large integrated companies with their own refining and distributing organizations operate and should prove equa'ly attractive to independent refining and marketing units whose permanent prosperity is dependent on the profitable operation of both.

Gasoline and Naphtha

The heavy rains which visited the southwestern states and were also quite general in the Middle West brought a weaker tone in the gasoline market the first of this week. Prices, however, were not generally changed up to Tuesday. The 58-60 U. S. Motor grade was moving to the trade at 6⅝ to 6¾ cents. These prices were shaded slightly by marketers with resale material and by at least two outside refiners who were quoting on a basis of Group 3. The higher gravity gasolines and naphthas were holding at the prices of last week.

Kerosenes and Distillates

The demand for kerosenes were not active enough to prevent an additional one-eighth cent in prices on all grades. The 41-43 grade was selling at 4 to 4¼ cents. This product was feeling the competition of the North Texas area, where refiners were selling under 4 cents. The range in distillates price varied from 3 to 3¼ cents for the 36-38 and 38-40 grades.

Fuel Oils and Gas Oils

Fuel oils and gas oils were termed "steady" by the trade. Fuel oils could almost be termed strong so far as Oklahoma is concerned. Buyers the past week have found most refiners sold up on the desirable grades for the ba'ance of the month and not disposed to consider business at present prices for July delivery. Gas oils were selling at 2⅝ to 2¾ cents. Several buyers were endeavoring to purchase at 2½ cents.

Natural Gasolines

As previously explained, buyers still

are keeping out of the natural gasoline market in sufficient numbers to force price concessions. All grades were available the first of the week under 5 cents with sales of the B and C grades reported as low as 4½ cents. Manufacturers are daily expecting buying in sufficient volume to firm the market.

Lubricants and Wax

Some weakness is apparent in the steam refined cylinder stocks. This is said to be due to the lower prices from other refinery areas. Neutrals are the strongest of the lubricant list. Wax prices are unchanged.

A. P. I. IS URGED TO STUDY CORROSION

(Continued from Page 30)

al technical committees as suggested below, to carry on this work.

"The second question is: 'In case a serious problem is found, what should be the character and scope of such work, and what, if any, expenditure of institute funds is it estimated would be required?'

"While fundamentally the same basic principles underly all corrosion phenomena, the controlling factors are often very different and the method of combating different types of corrosion often have very little in common, so that in practice it is convenient to classify corrosion problems into different types according to essential factors involved and the means of prevention that are applicable in practice. In the oil industry we have four rather distinct groups of problems that can perhaps be handled best by separate groups of investigators: These include, marine, production, pipe lines and refinery problems.

Scope of Work

"Your committee is of the opinion that the work should include the following:

"1—Correlation of the work of individual companies to check results and prevent unnecessary duplication. To facilitate this work, each company should appoint an officer or committee to follow their own corrosion problems and to keep in touch with the A. P. I. committee and with others engaged in similar work.

"2—Establishment of useful connections with other committees or organizations outside the oil industry who are engaged in similar corrosion investigations.

"3—Initiation and direction of new investigation work where necessary, either in the scientific study of the fundamentals of corrosion or in the testing and practical application of preventive measures applicable to the oil industry. The practical and scientific investigations of the problem should be carried on concurrently wherever possible, but the need of more knowledge as to the true nature of certain types of corrosion is recognized.

"4—A bulletin should be issued periodically giving papers or abstracts of and containing the results of all important corrosion studies available wherever such work has any practical bearing on the problems of the oil industry. The results of research work, carried out under the direction of the A. P. I. committees, together with any recommendations having to do with conservation of materials, will be circularized in the same way. These bulletins should be of educational character, written so that they will be readily understood by all concerned so as to disseminate useful information as to corrosion in popular terms. The bulletin should also be used to promote educational work in conserving materials, to pointing faulty practices and the best means of preventing waste.

"5—A corrosion conference should be held at each annual meeting of the institute at which time a report of the committee will be presented for discussion with a review of the development work for the year. Regional conferences may be called by the local committees at any time to discuss acute problems of a local nature.

"The results of all investigative work carried on by the committee should be summarized as soon as possible in the form of definite recommendations as to the best practice for minimizing corrosion in all equipment in the various branches of the industry."

STANDARDIZATION MUST BE SOLD INDUSTRY

(Continued from Page 30)

men of the oil industry, that standardization is far from being an accepted fact.

Need to Create Demand

This paper is meant to be constructive criticism, and if we criticize we should be prepared to suggest a remedy. I maintain that there always has been need, and particularly at this time, of a systematic campaign of education to be carried on particularly in the fields. Once you create the demand, the supply companies will carry the material in stock, and until they do carry it in stock A. P. I. standards will not be in demand except by the company which is in a position to purchase on a mill-shipment basis. One of the excuses submitted by operating companies who let all their drilling by contract is that they cannot install A. P. I. pipe because all the fishing tools and drilling equipment carried by the contractors would have to be changed and the contractors are not in a position to absorb that loss. That, of course, is one of the problems that we must analyze and solve. But how are we going to swing the small field shops into line and see that they are put in a position to carry accurate gauges? Perhaps the plan suggested by Mr. Black, and it is an interesting experiment, might be the solution, some recognized shop leader in every district doing as Mr. Black has volunteered to do. I cite it as one of our problems to be solved. Assuming that the small independent operator is prepared to adopt A. P. I. standards, where will he find all the necessary accessories, fishing tools, elevators, etc.?

A Thorough Survey

At this time I think we should make a thorough survey of conditions in the field as they apply to standardization, ascertain who is and who is not using standard equipment, compare the results, call meetings in the fields, and have a regular speakers' bureau in each district prepared to go and address these meetings and thoroughly explain what standardization means. Only a small percentage of the field men at this time understand the meaning of standardization. We should try to reach every branch of the industry through such organizations as the Mid-Continent Oil and Gas Association and the Los Angeles Chamber of Mines and Oil. Mr. Young has spoken on two occasions before geologists' meetings. Have a speaker address the Purchasing Agents' Association, who are now organized in nearly every district, pointing out to them the advantages of standardization. They have discussed standardization at their national meeting and I understand are in general accord with our program. Mr. O'Connor delivered his paper on that subject, but before delivering this paper Mr. O'Connor wrote a number of Purchasing Agents to ascertain to what extent they had adopted the A. P. I. standards. The letters, which I had the privilege of reading, were along the lines of those that I just read from the operators. Endeavor to interest some of the leaders in the contracting business in each district, men who will actively participate.

If we take advantage of the exposition at Tulsa and all of the manufacturers will co-operate and send A. P. I. equipment for inspection and comparison with the old equipment, and the Institute will maintain an office with all the necessary data on the progress of standardization and its present status, it will be very helpful.

Educational Work

In Mr. Pew's foreword of our general

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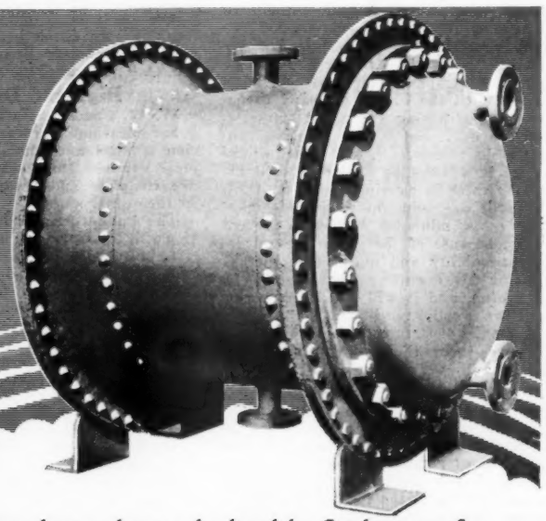

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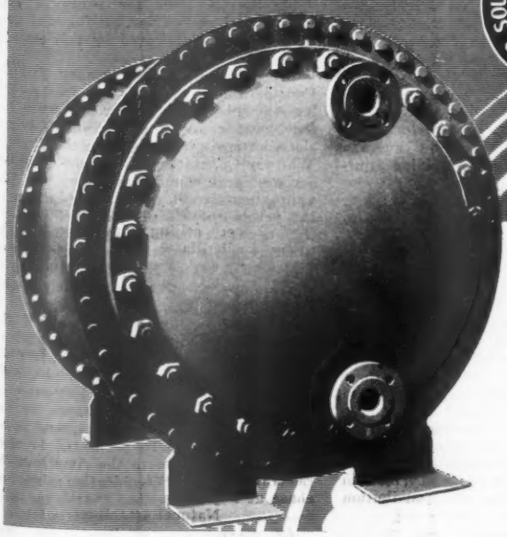

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6486-A

program for this session he refers to the fact that 1,700 handbooks have been distributed. Of course, that is a good start, but 1,700 handbooks to educate the oil industry is not a beginning. I would say that the principal supply companies will have in actual use throughout the oil fields of the world at least 25,000 copies of their catalogs. I base that knowledge on my limited experience in the supply business.

The articles written by some of the leaders on standardization and such articles as Mr. Pew has written on abuses of A. P. I. material, Mr. Davies on pipe, Mr. Nicklos on rotary equipment, and the several other excellent papers that have been written, are splendid papers. They are the text-books of the industry. But who is carrying this information to the driller, the tool dresser, the roustabout and the superintendent in the field? Who is applying that practical lesson in every day work?

As I see our standardization division to date we have been the technical school; we have been educating ourselves. I might compare it to an army. We are officers and non-commissioned officers, but who is out training the privates?

If we could convince executives of supply companies to write a series of articles to their salesmen on the advantages of A. P. I. it would be decidedly advantageous. If every executive of the operating oil companies would do likewise it would be very helpful. Many have done this. The engineer and the manufacturer, in my opinion, has done this work, and has done it well. The manufacturer has invested large sums of money in changing patterns, conducting research and experimental work, all at the request of the operators, and he is now waiting to see the results. We owe it to him to give him our most hearty co-operation and assistance in introducing these standards in the field. We are the specialty salesmen who must go out and create the demand, and until this demand is created standardization will not be a success, and standardization will not be a success until the executives of the manufacturers and their engineers are convinced that it is advantageous to their particular company. It will not be a success until the supply company executive, his purchasing agent and his salesmen are convinced it is to their advantage to distribute A. P. I. standard equipment. It will not be a success until the field operator is convinced that A. P. I. standards are going to reduce his operating costs, minimize accidents, prevent delays, because of the advantages of interchangeability and uniformity, thereby reducing his operating costs, increasing his profits, and it will not be a success until we finally reach the maintenance and repair departments and thoroughly convince them that standardization is along the lines of progress and prosperity, even for the small service shop.

In other words, every one of these four branches of our industry must be thoroughly sold and convinced of the advisability of standardization in his own behalf. I believe all these things can be accomplished and the ideal of standardization brought about by the active co-operation, which I think can be obtained, of the various factors interested in drilling equipment; and finally I believe this movement is one in the interest of national service. The American commercial flag can only be maintained in the markets of the world by quantity production, which means standardization. Quantity production cannot be obtained except by standard and uniform methods, and in the interest of the national government by increasing the efficiency of our industry, we being an essential industry, we could not render greater aid to our government in a national crisis than by standardizing our industry.

STANDARDIZATION COMMITTEE REPORTS

(Continued from Page 32)

power boilers. The committee was unanimous in believing that this size is too large and not necessary.

Cable Drilling Tool Joint

E. W. Williams, Acting National Chairman; C. T. Mapes, National Secretary

After a lengthy and thorough discussion of the question of tolerances on A. P. I. cable tool joint gauges, the following recommendation was adopted: That boxes produced with A. P. I. plug gauges may be made with a tolerance of .005. In this practice the plug gauge might protrude from the face of the box .005 of an inch, or the faces of both plug and box flush with one another. Pins produced with a ring member of A. P. I. gauges will be permitted to have a stand-off valve between the faces of the pin and the face of the ring, varying from .625 to .637.

The statement was made by Mr. Mapes that there was a desire on the part of one branch of the Oil Well Supply Co. that the subject of the length of box and pin collars on jar and stems be brought before the committee, to learn if the lengths as at present in use were entirely satisfactory; that the subject was presented for the reason that several operators have felt that the collars on the tools mentioned might well be lengthened.

No favorable expression was had from any member present suggesting any change; in fact, it was the opinion of all members in this session that the present adopted lengths were entirely satisfactory.

It was stated by Mr. Mapes that this committee had received a communication from the Guiberson Corp. requesting that consideration be given to the adoption of a taper tool joint of a size smaller than any now listed on the A. P. I. table of standards, they deeming it necessary to have a joint of this character for tools to operate inside of 4-inch inside diameter casing.

Favorable comment was made on the subject, which brought out the fact that two sizes of small joints were required; following which the chairman, Mr. Williams, placed the matter in the hands of a subcommittee for consideration, this committee to be composed of three members: F. J. Hinderliter, Tulsa, Okla., chairman; George Spang, Butler, Pa.; and C. T. Mapes, Pittsburgh, Pa.

Rigs and Derricks

W. W. Fondren, National Chairman

Specifications governing the construction of steel and combination wood and steel derricks, and standard rig parts, are complete and ready for publication in their final state.

The standard rig and derrick specification will be sectionized as follows:

1. Material covered.
2. Workmanship and finish.
3. Steel derrick dimensions.
4. Steel derrick strength and capacity requirements.
6. Combination wood and steel derrick strength and capacity requirements.
7. Standard rig parts.
8. Standard rig parts, strength and capacity requirements.
9. A. P. I. marking.
10. Inspection and rejection.

Appended to these specifications will be this committee's recommendations of suitable concrete derrick corners, as well as the proper making of concrete, which is a vital factor in the efficiency of the modern rigidly constructed derrick.

These specifications will become effective 90 days after they are printed and distributed in final form, which distributing date will be in the near future, allowing necessary time for the tabulating of all details in proper form.

The use of A. P. I. derricks and A. P. I. standard rigs will greatly reduce the necessary stocks to be carried by both manufacturer and purchaser, which naturally will result in a great saving of moneys. It will further result in a more intelligent selection and use of this equipment, which naturally results in a more economical use, which also means a great saving of moneys to the industry in general.

These specifications are now in such shape that there need not be any hesitancy on the part of the industry to purchase A. P. I. derricks and A. P. I. standard rigs and the committee urges that such equipment be used as soon as it is available.

Oil Country Tubular Goods

J. Edgar Pew, National Chairman
Charles Fitzgerald, National Secretary

The following changes were proposed upon the 5-A specification which already had been adopted as final.

An increase in the angle of bevel on collars, in order to facilitate stabbing, was requested by several users, as a result of their experience. After some discussion this angle was established at 35 degrees.

A question was raised in regard to the change of average weight caused by upset on the ends of pipe, the average varying with the length of the pipe for a given upset. The upset is the same on 20, 30 and 40-foot lengths, but makes a difference in the average weight for each length. In order to clarify this, the following phrase was added: "The nominal weight is based on 20-foot lengths and due allowance must be made for longer lengths when same are furnished." The mills agree to prepare tables for the guidance of inspectors.

It was recommended by a special committee that the table of chemical properties be changed to include .045 to .08 phosphorus in open hearth steel as class 2 rather than as now covered by footnote. It was also suggested that the physical properties of open hearth iron require further investigation. These questions were left with the subcommittee for test and investigation.

It was moved and carried that the maximum and minimum test pressures be eliminated from Table 1 and that one test pressure be adopted for stenciling on pipe. The table for test pressures of open hearth steel was submitted and approved and a committee appointed to make similar tables for open hearth iron, wrought iron and seamless steel.

Line Pipe Specification

About one year ago it was proposed by the Natural Gas Association of America that since the problem of line pipe was common to the oil and to the gas pipe line industries, that they co-operate with the standardization work of the A. P. I. by contributing a tentative specification on line pipe to serve the needs of both industries. This specification was received during the Tulsa meeting and later distributed to all members of the pipe committee and to a number of prominent users. There were a considerable number of replies received and summarized and the summary of these replies distributed to the members of the pipe committee a short time before this meeting. In the meantime, since this N. G. A. specification had been distributed for comments, it had been revised to a considerable extent and a number of suggestions made by members of the pipe committee had already been covered and corrected in the revised N. G. A. specification received a few days before this meeting.

The specification was then reviewed in detail and, in general, tentatively approved, with the exception that a committee was appointed to further investigate the same question of chemical composition as referred to in the discussion of the 5-A specification. A committee was also appointed to investigate the possibility of increasing the average length of pipe, including the effect on average length of plain end pipe by welding jointers at the mill.

These committees will soon begin their work and will probably make a trip to the mills to investigate their problems.

In order to get some action and to get some pipe in use, so that the final decisions on the disputed questions can be made, it was decided to tentatively adopt the specification as revised at this meeting. The main items in question were those referred to the subcommittees for further investigation and even these clauses were tentatively adopted during the period of investigation in order to have a working basis available at once.

This specification will be completed to include the corrections made at this meeting and then will be forwarded to the committee of the Natural Gas Association of America for their further action.

The tapers, tolerances and threads were definitely agreed upon so that gauges could be made and it is felt that no hardship would be worked on any manufacturer that went ahead and purchased these gauges because that part of the specification has been definitely approved. The unsettled differences occur only in chemical composition, length of joints, certain details of testing and so forth.

Rig Irons

William Schwemlein, National Chairman

An alternate 6-inch band wheel flange specification was adopted, it having the same bore and keyway dimensions as has the existing flange, but having an outside diameter of 52 inches and holes for twelve 1-inch bolts equally spaced around a 48-inch bolt circle.

Revision in the specifications covering the jack post boxes were tentatively adopted so that the size and position of dowel on the base and the spacing of beads on the base for engagement with the jack post are covered. A specified spacing of the centers of holes for hold-down bolts is now given also in tentative form.

The relation of pumping units and steel equipment to standard rig iron outfits was discussed and those subjects were referred to the pumping equipment committee and the standard rig and derrick committee with the suggestion that the present rig iron standards be used wherever a part of the items under consideration had a similar use to a rig iron part.

The chief problem the rig iron manufacturer is confronted with is the bringing into use of standardized rig iron outfits to an extent where he can put their manufacturer on a production basis, thereby permitting him to make a fair profit and in so doing eventually absorb the cost incurred in the preparation to manufacture rig irons on a production basis. It is hoped that the activities of the institute now on foot to accomplish this result with the standardized material will be highly successful.

Rotary Drilling Equipment

Capt. J. F. Lucey, National Chairman

The work of this committee has been completed excepting such work as has been referred to the engineering committee for some slight changes in specifications. I am glad to state, however, that the section relating to gauge dimensions for the rotary drilling taper joints was finally approved. The net changes and additions to the specifications are summarized in the following:

(1) Adoption of standard dimensions for goose-neck connections on swivels.

(2) Development of gauging practice. Tentative specifications were again submitted to this committee changing slightly their former tentative specifications. This committee feels that considerably more field experience with taper joints is necessary before finally adopting stand-off values.

(3) Subs for grief stems. Specifications were furnished for these subconnections, and approved by this committee.

(4) Specifications for width of flute and size of radius for grief stems were furnished, and approved by this committee.

(5) Taper joints for rotary drilling. Considerable discussion was had regarding the placing of a group order for tool joint gauges, during which discussions letters were read from the Pratt & Whitney Co. stating that if the group order was large enough that there would be approximately 10 per cent reduction in the prices quoted. This subject involved the question of permitting a certain manufacturer in a certain district to be custodian of a set of gauges for a group of small shops who were not financially able to purchase gauges. It was the sense of this committee that Mr. Black of the Beaumont Iron Works be permitted to purchase gauges and work out a method for these small shops whereby he could make working gauges and test same on his masters; these small shops to use gauges for repair work only, and in no case were they to be permitted to mark their product made to the American Petroleum Institute specification; in other words, use the American Petroleum Institute monogram on their repair work.

(6) Larger size of line shafts than

6-inch. Tentative specifications were submitted on 6½ and 7-inch line shaft; this committee approving, and that these sizes be added to our specifications and referred to the engineering committee for such detailed specifications as necessary to complete same and submit for approval at future meetings.

(7) The question of standard connections for draw work posts to head boards in derricks was referred to a committee of three to meet with the rigs and derricks committee.

(8) This committee approved the adopting of standard threads for extra bowls for overshots and referred this question to the engineering committee for such necessary specifications.

(9) Code on recommended field practice. It was considered that not sufficient experience with the present rotary drilling equipment made under American Petroleum Institute specifications had been had to recommend a code at this time, and the matter was deferred to a future meeting.

Wire Rope and Manila Cordage

C. C. Scharpenberg, National Chairman

The specifications on wire rope and manila cordage have been adopted in tentative form and published for inclusion in the American Petroleum Institute handbook, and considerable quantities of wire rope have been purchased in accordance therewith. Practically no changes were made in the specification itself, although considerable additions were made to the code on recommended field practice. As the code stands today it is the most complete code of its kind ever prepared for this particular service.

The California committee reported that about 900 lines had been bought to American Petroleum Institute specifications and 268 tested. The Mid-Continent committee reported approximately 340 lines tested on specification, resulting in 20 to 25 per cent increase in life. The work which is now under progress to increase and evaluate wire rope life is progressing. In California a special grooved drum has been made but not yet tested, which is about 25 inches in diameter and 34 inches between flanges. There has been a feeling by those closest to the work that there are two difficult problems confronting us: One is the evaluation of wire rope life, and the second an attempt to obtain uniformly good wire, or in other words, to differentiate between good and bad wires, the particular material being a cold drawn steel product of high tensile strength, which must have certain bending, torsional and abrasive resistive qualities, which makes the material very difficult to test. The two companies in California particularly active in this work, the Union Oil and the General Petroleum, have taken it upon themselves to develop a meter for the correct evaluating of wire rope life for rotary drilling lines. It has been forcefully brought out by both users' committees that we are in serious need of simpler laboratory tests. To that end preliminary work was brought in with the idea that perhaps the temperature rise of metals under reversed stressing might be an indication to that end. This report was given at the meeting, and nobody seemed to know whether it had any value or not. Nevertheless, in recognition of perhaps a possible fact that might come before the main standardization committee of the American Petroleum Institute, and that is the determination of this fatigue of ferrous metals, a committee was appointed consisting of the national chairman and the national vice chairman, that if such work should be undertaken we would have a ready avenue open so that we can enter into it and become a part of it. I feel that we have that need approaching us from several angles, namely, that of rotary drill pipe, which, from the failures I have recently seen, I am sure are due to fatigue. We also have that in the sucker rod work, and I think much work has been done on that in the sucker rod committee. We also have that in the tubing, and I think primarily all wire lines. The type of work which would have to be undertaken would be slightly different.

Grade H has been eliminated from the specifications. It was eliminated because of the fact that it caused confusion with special grade of rope made by various manufacturers, and it was therefore thought best not to include this grade in the specification.

The committee on cordage met, making some revisions in the preservation and use of manila cordage.

O. D. of polished rod, inches	Pins and for boxes std. A. P. I. sucker rod for A. P. I. rod sizes	Permissible lengths, feet
1⅛	⅝" A. P. I. Std.	10, 11 and 20 ft.
1⅛	¾" A. P. I. Std.	10, 11 and 20 ft.
1¼	¾" A. P. I. Std.	10, 11 and 20 ft.
1¼	⅞" A. P. I. Std.	10, 11 and 20 ft.

Pumping Equipment and Engines

T. E. Swigart, National Chairman

The committee on standardization of pumping equipment and engines has just completed a very constructive program. Three complete specifications have been reviewed and approved for publication. New standards have been developed on four different classes of equipment, and action has been taken which it is hoped will lead to standards for several other classes of pumping equipment.

Sucker Rods—The committee added an optional dimension of 1⅜ inches to the existing 1-inch dimension for wrench square or flat on couplings for double pin sucker rods. A tolerance of plus or minus one thirty-second inch was applied to both dimensions. This was necessary as the original 1-inch dimension interfered with manufacturing practice of two large manufacturers and was allowable because rod couplings are not often wrenched. No other nominal sucker rod dimensions were changed.

The intricacies of the several tables of detailed dimensions in the sucker rod specifications have necessitated careful checking and correction of certain figures. These changes were necessary in order to present an accurate specification, but do not affect the general dimensions or policies established by the committee; they have been made in conference between representatives of the division of standardization, the United States Bureau of Standards, the gauge manufacturers and the national chairman.

The committee rescinded its former action in adopting a gauging system for sucker rods which gauged for maximum thread and cone of pin and minimum thread and cone of box and therefore only insured interchangeability of product without checking fit. A more complete and satisfactory gauging system was adopted which insures that the product will be within maximum and minimum dimensions.

Working Barrels—With the exception of a few minor changes given unanimous approval of the committee, the working barrel specifications as printed in tentative form (American Petroleum Institute Standards 11-A) May, 1927, were returned to the division of standardization for publication.

Internal Combustion Engines Clutches and Rating Specifications—No changes were made in these specifications as issued tentatively by the division of standardization (American Petroleum Institute Standards 11-C, May, 1927). These specifications were returned for final publication.

New Standards Developed

Pump Parts

After reaching what appeared to be a deadlock between eastern and western practice, a final happy compromise permitted the drafting of a single schedule for dimensions of oil well pump parts. Eastern practice was accepted for 2-inch pumps and western practice for other sizes.

Polished Rods

The committee adopted dimensional standards for two sizes of polished rods as given in the following tabulation:

	Remarks
For use with ⅝" sucker	A. P. I. rods
For use with ¾"	A. P. I. rods
For use with ¾"	A. P. I. rods
For use with ⅞"	A. P. I. rods

Polished rods may be of double pin or box and pin type.

Air and gas lift flowing of wells in the Mid-Continent fields has developed the need for 3½-inch plain, three-fourths inch and 4-inch upset tubing. This need became apparent through the use of strings of tubing of variable sizes as for example, 2-inch in bottom, then 2½, 3, 3½ and 4-inch near the surface. The committee decided to adopt standards for these sizes, so that any demands for them to different manufacturers would be filled by standard tubing which would be interchangeable.

The joints were carefully designed so as to be in proportion to other tubing joints. Following are general dimensions:

Size	Weight per foot with coup.	Threads per inch	Adopted collar length	Remarks
3½"	9,500	10	6	Plain
3½"	11,000	10	6¼	Upset
4"	12,750	10	6½	Upset

Standard Sizes for Pressure Gauge Taps and Fittings at Well Heads—Because of the different sizes and kinds of fittings furnished on pressure gauges, and the fact that they are needed in times of stress at points where bushings are seldom available, the following recommendations are made to oil producers:

(a) All taps and pressure gauge connections at well heads are to be one-half inch standard pipe size.

(b) All pressure gauges are to be fitted with bushings to give one-half inch male pipe connection before being delivered by storehouse to the field.

(c) All gauges are to be fitted with valve or stop cock immediately under gauge before being delivered by storehouse to the field.

Compliance with this recommendation will eliminate all confusion in regard to the fitting of pressure gauges and will not interfere with gauge manufacturer's designs.

Distances Between Prime Movers and Band Wheels—At the request of the committee on standardization of rigs and derricks, the following dimensions were recommended by the committee on pumping equipment:

(a) Distance between motor shafts and counter shafts on belted pumping units to be approximately 12 feet.

(b) Distance between counter shafts and band wheel shafts on pumping units to be approximately 32 feet.

(c) Distance between reduction gear shafts and band wheel shafts on reduction gear chain drive units to be 16 feet.

Progress in Development of New Standards—The committee directed the national chairman to appoint a subcommittee to investigate present practice and make recommendations at the December, 1927, meeting of the institute on the following subjects:

1. Standardization of motor foundation plans, foundation bolts, shaft heights, key-way sizes and positions, and distances of ends of shafts from center line of motors for 15-35 horsepower, 20-50 horsepower, 25-65 horsepower and 75 horsepower motors.

2. Standardization of shaft sizes, keyways, crank dimensions, and any other possible dimensions on reduction gears and pumping units to facilitate interchangeability.

3. Standardization of layouts and foundation details and other possible dimensions of counter shafts for belted units.

John R. Suman, national vice chairman of the committee, has been designated as chairman of this sub-committee.

The chairman was also directed to appoint a sub-committee to report on the application of the present or a similar modified rating test code for internal combustion engines, to multicylinder internal combustion engines.

Steel Tanks for Oil Storage

Ralph J. Reed, National Chairman

At the annual meeting of the institute at Tulsa in December, 1926, tentative general specifications for steel storage tanks were adopted by the special committee, approved by the general committee on standardization and referred, together with a suggested schedule of tank sizes and proposed detailed designs, to the district sub-committee for comment and criticism. These comments have been received and thoroughly discussed, with the result that changes and additions to the specifications have been made.

The revised tentative general specifications contain a table of approximate dimensions and capacities for American Petroleum Institute steel tanks.

Supplementing the committee's work on riveted steel tanks, the national chairman, during the course of the Tulsa meeting, was instructed to appoint a subcommittee representing manufacturers of bolted tanks, who should make a careful study and present for consideration a tentative American Petroleum Institute standard for the bolted tanks widely used in the industry. A small and active subcommittee was appointed, met during the present standardization session, and presented such a standard. A copy of the sub-committee's report is herewith submitted. This report is approved by the special committee, who recommended its adoption, and the printing of the appended tentative standard schedule for circulation to the industry and the manufacturers for comment and criticism.

SCHEDULE OF APPROXIMATE DIMENSIONS AND DIAMETERS FOR A. P. I. STANDARD TANKS

(Capacities in 42-gallon barrels)

Diameter	Height 23 ft. 6 in.	29 ft. 6 in.	35 ft.	*41 ft.	47 ft.
36 inches	4,400	5,500	6,500	7,600	.....
48 inches	7,300	9,400	11,000	13,000	.....
60 inches	....	15,000	18,000	21,000	.....
78 inches	....	25,000	30,000	35,000	.....
102 inches	....	43,000	51,000	60,000	.....
120 inches	....	59,000	70,000	82,000	94,000
144 inches	....	85,000	103,000	120,000	138,000

*Detailed designs for standard tanks of the approximate dimensions and capacities shown in this column are being prepared by the special committee.

STANDARD SPECIFICATIONS FOR A. P. I. BOLTED TANKS

Dimensions: Nominal Capacity	Actual Capacity	Diameter	* Height	Shell: No. Staves Per Ring	U.S.S. Gauge	No. Rows Bolts	Size of Bolts	Bottom: U.S.S. Gauge	Size of Bolts	W.S.Roof: U.S.S. Gauge	Size of Bolts	Cone Rf.: U.S.S. Gauge	Size of Bolts
100 bbls.	95.8	9 ft.-2⅝ in.	8 ft.-0½ in.	6	14	1	⅜ in.	14	⅜ in.	14	⅜ in.	14	⅜ in.
					14	1							
200 bbls.	191.6	9 ft.-2⅝ in.	16 ft.-1 in.	6	14	1	⅜ in.	14	⅜ in.	14	⅜ in.	14	⅜ in.
250 bbls.	266.2	15 ft.-4½ in.	8 ft.-0½ in.	10	12	1	½ in.	12	½ in.	12	½ in.	12	½ in.
					12	1	½ in.						
500 bbls.	532.4	15 ft.-4½ in.	16 ft.-1 in.	10	12	1	½ in.	12	½ in.	12	½ in.	12	½ in.
500 bbls.	.....	21 ft.-6 in.	8 ft.-0½ in.	14	12	1	½ in.	12	½ in.	12	½ in.	12	½ in.
1,000 bbls.	.....	21 ft.-6 in.	16 ft.-1 in.	14	12	1	½ in.	12	½ in.	12	½ in.	12	½ in.
1,000 bbls.	992.8	29 ft.-8½ in.	8 ft.-0½ in.	20	12	2	½ in.	12	½ in.	12	½ in.	12	½ in.
					12	2	½ in.						
2,000 bbls.	1,985.6	29 ft.-8½ in.	16 ft.-1 in.	20	12	2	½ in.	12	½ in.	12	½ in.	12	½ in.
					12	2	½ in.						
5,000 bbls.	5,034.6	36 ft.-7½ in.	24 ft.-1½ in.	26	10	2	½ in.	10	½ in.	12	½ in.	12	½ in.
					10	2	½ in.						
10,000 bbls.	.....	55 ft.	24 ft.-1½ in.	37	10	2	½ in.	10	½ in.	12	½ in.	12	½ in.
					3/16	2	½ in.						

All bolts to have 2-inch pitch with 2 inches between rows center to center. Double-bolted seams to be square pattern. Water-seal roofs to be figured for 9 inches of water. Cone roofs to have a pitch of 1 inch in 12 inches. Standard sheets to be 60 inches by 100 inches.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SEGER CONES OR FUSION PYROMETERS FOR HIGH TEMPERATURES

I should like to have a description of the instrument which makes use of clay mixtures of different composition for measuring high temperatures.—P. R. L.

Various mixtures may be prepared which will melt at any desired temperature and one of the best known of these is made in a series of clay pyramids, each of which is about 2½ inches high, called Seger cones. These cones are extensively used for determining the temperature of furnaces for the burning of pottery, firebrick, tile, etc. Different kinds of clay and different mixtures are blended in such exact proportions that each cone in the series will have a different melting temperature.

The temperature range of Seger cones is from approximately 500 Fahrenheit to about 3,500 Fahrenheit, with a difference of about 35 Fahrenheit between each. Those who are familiar with these cones claim that temperature observations are possible within 20 degrees Fahrenheit. The cones are used by placing four to six of them on a plate in the furnace in a suitable position for observation. The Seger cones are marked with numbers and a fixed melting point corresponds with each number. When a number of cones are set in a furnace, the lowest melting point cone will first soften and fall, then varied degrees of melting point will be indicated by the condition of the other cones. The cone which does not change in form has a melting point above that existing in the furnace. The temperature recorded is that corresponding to the cone which bends over so that its tip just touches the plate.

GRAVITY OF GASOLINE

A bill has been introduced in our (Illinois) legislature providing that information, in the form of a posted statement, shall be given to purchasers of gasoline, showing the exact Baume gravity of the gasoline offered for sale in this State. I wish to ask if Baume gravity is one of the standard tests for showing the quality of gasoline—D. C. R.

Gravity is an indication of weight and the weight of gasoline is not included in any test, with which we are familiar, for determining the quality of gasoline. It may be remarked that Baume gravity means that a density indication is to be obtained by means of a Baume hydrometer, and that the Baume hydrometer has no official place in the petroleum industry as an instrument for determining the quality of gasoline and never did have such a place. Some years ago there was no uniformity in the testing methods applied to petroleum and various hydrometers, including Baume, were used for obtaining the weight of crude oil and petroleum products. The recognized standard hydrometer which is used throughout the petroleum industry in the United States, is a special instrument adopted by the American Petroleum Institute, and the indications of this instrument are followed by the letters A. P. I. It is possible to convert A. P. I. degrees or numbers to Baume numbers. The Baume numbers are somewhat smaller, for the gasoline range, than the A. P. I. numbers.

The distillation test is the most important standard test that we have for indicating the quality of gasoline. Gravity, of any kind, gives very little information about the character of a motor fuel. It is of importance in determining weights.

INFLUENCE OF PRESSURE ON TEMPERATURE

Will you kindly explain why and how pressure creates both heat and cold?—D. C. N.

Heat is a form of energy, frequently spoken of as something that is developed. This does not mean that it is simply a thing of growth. Heat is said to be developed in the sense that it is a transformation of energy from some other form, such as chemical, electrical, or mechanical. Heat and cold are relative terms, but we assume here that they are extremes. If heat is flowing into a body, that body is said to be getting hot; but the body is said to be getting cold when heat is flowing away from it. All bodies do not take up or absorb heat with the same rapidity. Heat lost by one substance is gained by another; also, heat gained and heat lost must always be equal. When the conditions are such that a substance is not permitted to gain or lose heat although there is a volume and pressure change, but in such a manner that not kinetic (motion) energy is absorbed by the mass, the conditions are called adiabatic.

Vaporization is a term indicating a change from a solid or liquid state to that of a vapor or gaseous condition. Evaporation is a form of vaporization and may be explained that some of the particles at the surface of a liquid, for example, have a greater velocity than others and consequently pass off beyond the attractive range of the other particles. The rate at which this action will take place depends upon several things; surface exposed, saturation of the vapors, and pressure of the gases or vapors above the liquid are important. It is a fact that the particles having the greatest energy (heat) are removed by evaporation and the mass or body of liquid is thus reduced in temperature, or cooled. The more rapid the evaporation the faster will heat be removed from the liquid and surrounding bodies and cooling obtained.

Heat may be defined as a condition of molecular vibration and separation. When heat is developed in a body we explain the fact as being due to increased vibration of the particles and when there is a lowering of temperature the vibrations have been decreased. When a piece of wire is bent back and forth, the wire becomes hot at the bend. Here the velocity of the particles, molecules, rubbing together causes enough agitation to produce the heat. In the same way the stirring of liquids and gases causes heat to be developed.

The hammering of metal causes it to become hot, that is heat is generated by percussion. When a gas is confined in a cylinder and is compressed by the force of the piston, the gas volume is decreased, the temperature is raised in a similar way to that of a solid or liquid mass. Should a given volume of gas be confined during compression in such a manner that the heat is carried away, then when the pressure is removed there must be an equal quantity of heat withdrawn from the surrounding bodies. This is refrigeration or cooling.

COMPLETE PIPE STILL MORE EFFICIENT THAN SHELL STILL

I obtain 23 per cent of 320 endpoint gasoline, 19 per cent kerosene, and 9 per cent gas oil from the crude in shell stills. Fuel consumption 8 per cent and loss 2 per cent. Will it be possible with a pipe still and bubble towers to obtain from the same crude 28 per cent gasoline, 11 per cent kerosene and 25 per cent gas oil with a fuel consumption of 3 per cent.—A. G.

The suggested increased efficiency of the pipe still appears to be conservative. It has long been known that the shell type still is a very poorly designed piece of apparatus in so far as ultimate separation and low fuel consumption are involved. When the first petroleum refineries were built it was natural to turn to the pot and boiler type vessels as containers for the oil while it was being heated. Since the development of the gasoline market, there has been need for finer separation of the fractions from the crude oil which are included in the motor fuel. Improved methods have been introduced throughout the entire skimming operation. These methods have made it possible to make products of uniform quality and at reduced expense. The shell still was first improved by the addition of towers, condensing equipment, including exchangers, and different means for feeding and temperature control.

The battery of shell stills, under continuous operation, when provided with modern towers and other equipment, functions very well. The crude cannot be reduced to the same degree with equal facility to that practiced in the modern pipe still, but while the pipe still has the advantage it cannot be concluded that a battery of shell stills should be junked. Separation and fuel economy are important subjects to be considered in connection with original design, and they are even more important, at least in degree, when rearranging and improving a battery. It may be suggested that your problem should be laid before a competent technologist with instructions to include the present shell stills, if possible, in a new scheme involving the addition of a pipe still.

THE ACIDS OF PETROLEUM

When handling crudes from the northern district of Mexico I have observed that if some of them came in contact with caustic soda a thickening resulted, and assumed that this was evidence of neutralization of the organic acid in the crude with the production of a petroleum soap. Have you any record of the quantity and character of the acid or any helpful information about this matter?—V. G. S.

While there are frequent references to acids in crude oil, the authorities have recognized no appreciable quantities of the ordinary acids in the petroleum collected from different parts of the world. There have been traces of lower organic acids, such as formic and acetic, reported in some crudes. The greater part of the organic acids appear to be included in the group known as naphthenic acids. There is a large number of them found in the oils of Mexico, Rumania, Texas, California, etc.

When an alkaline substance, such as caustic soda, is added to an oil containing large quantities of the naphthenic acids, alkaline salts are produced, which resemble in some respects the soaps formed from the fatty acids. Most of the work with naphthenic acids has been done on the material obtained from the treatment of distillates with sulphuric acid, and on this account it has been stated that such acids should not be classed with the naphthenic acids in the untreated oil.

It is now recognized that the paraffin base oils contain little of these naphthenic bodies and that they are to be looked for in the heavier asphaltic or naphthene base crudes. The oils of Baku are rich in naphthenic acids, while oil found in Pennsylvania is about free from them. Rumanian oil has been reported by Gurwitsch to contain naphthenic acids equivalent to 0.34 per cent sulphur trioxide. Investigations of Baku oil indicate that the naphthenic acids appear in the larger quantities in distillates of the burning oils and the light lubricating oils.

Additional details about the petroleum acids may be found in Gurwitsch-Moore, Petroleum Technology.

REMOVAL OF CARBON DEPOSITS AND THE ACTION OF MOTH BALLS

Is there any agent which will remove carbon deposits from spark plugs and cylinder head of an automobile? I have heard that ordinary moth balls will soften carbon so that it will be blown out through the exhaust. In fact I tried it and found that my little knock subsided temporarily. Is there any merit in the idea?—J. E. A.

The material which is deposited about the valves, spark plugs, etc., of an automobile is not carbon, but is a mass that appears to vary in composition according to the engine, the fuel, the kind of oil, and the character of the country through which the car may be driven. Analyses of these deposits show that carbon is present in quantities ranging from 45 to nearly 90 per cent; iron, sand, sulphur, asphalt and oil are other substances present in the black material.

There is no known substance which will, under normal or ordinary conditions, cause carbon to soften or go into solution. It may be that some substance may act on the oil, or on some other constituent of the deposit, to such an extent that the mass will fall apart and its removal thus helped. Various solvents have been suggested for use in connection with the cleaning of automobile cylinders but none has received wide approval.

Moth balls, which is one of the common names for the chemical compound naphthaline, has been suggested as a carbon remover. However, instead of removing carbon there would be a tendency to add it, because napthaline contains a large quantity of carbon as shown by the formula, $C_{10}H_8$. It boils at 424 Fahrenheit and would on this account be well distributed throughout the vapor, if added to the ordinary gasoline, in the combustion chamber where it would tend to deposit carbon as it was decomposed.

Investigations have been made for the purpose of demonstrating the influence of naphthaline as an antiknock substance, and it has been reported that it is without value for this purpose.

Length 37 feet—Inside diameter 10 feet. Wall Thickness 2½ inches. Weight 129,000 lbs.

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Because of the completeness and magnitude of the A. O. Smith Corporation's equipment and plant, Smithsteel Cracking Vessels can be obtained in less time than cracking stills made by other methods.

The fabricating methods used assure remarkable accuracy. You can, therefore, prepare super-structure, piping, etc., in advance with absolute certainty that Smithsteel Cracking Stills will fit.

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Smithsteel Cracking Stills can be built to any diameter and length within transportation limits—and in any wall thickness within steel mill capacity.

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Smithsteel Cracking Stills do cost more than vessels made by some other methods. The extra cost is the price of safety.

Only the Finest Part of the Ingot is Used

To get the quality demanded for Smithsteel Cracking Stills, 50% of the ingot metal has to be scrapped. An additional 10% is scrapped in the building of the still.

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Throughout the process of manufacture the steel is closely inspected. The slightest evidence of a defect in a plate sends it to the scrap pile.

Each vessel is made of small sections every one of which can be inspected and will be rejected if it does not come up to Smithsteel standards.

A. O. SMITH CORPORATION, *Milwaukee, Wisconsin*
Oil Field Products Division Los Angeles

SMITHSTEEL CRACKING STILLS

Apparatus to Determine Air in Gas

Skill Necessary in Making Tests If Accurate Results Are Required. Explain Usual Sources of Error

By Frank P. Peterson

TWELFTH OF SERIES

The accompanying article is the twelfth of a series by Mr. Peterson in which he has discussed many of the operating phases of large natural gasoline plants. The eleventh article appeared in the June 2 issue of The Oil and Gas Journal (page 136).

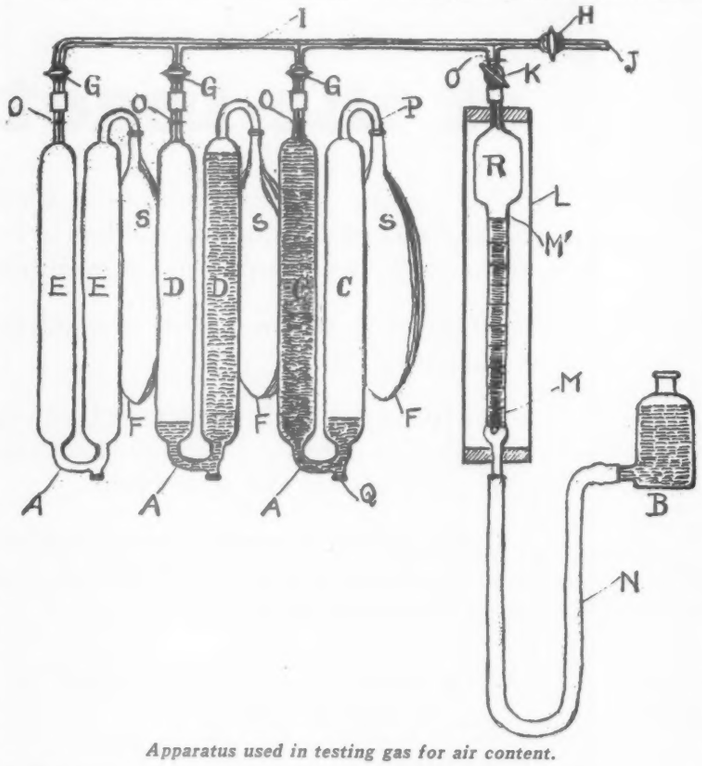
The presence of air in the gas is always a matter to be kept in constant surveilance by operation. The reasons have been set forth in previous discussions. Mention has been made of laboratory examination for air content. This work is just one of the details of operation reduced to routine. This particular phase of routine is about the nearest approach we have in gasoline plant operation to applied chemistry, and is also a nice combination of chemical and physical work. Manipulation of the apparatus required in the work of testing for air calls for some knowledge of the physical laws of gases, together with the limited amount of information necessary to a proper understanding of the work in hand. The operator is certainly not necessarily a graduate chemist, but he should know enough of the chemistry of this particular work to understand that while oxygen dissolves readily in (or is absorbed by) pyrogallic acid, it is not readily soluble in potassium hydrate, and also that carbonic acid, CO_2, is readily and actively soluble in either the potassium hydrate or the caustic-pyrogalol pipette of his apparatus.

In view of the fact that it is often difficult for the beginner in lines of effort involving the use of such apparatus as employed in this case to obtain specific description of its manipulation, and of the fact also that the manipulation is of special importance, it is well to describe it. As in the case of distillation of light gasoline some dexterity is involved, and for comparative data, such as is required for graphic record, the greater the degree of precision in the work the more useful it will be made.

As diluents found in natural gas, those with which the gasoline plant will be concerned are: First, air; second, since if found present to any marked extent, they are likely to run rather constantly in their percentage ratios, we are likely to have CO_2, CO and free nitrogen, and by the latter is meant nitrogen not present in an air component ratio. The apparatus which is universally used is not arranged to go beyond the search for oxygen, CO_2, and CO, and it may be said that the latter is found so infrequently and in such insignificant quantities that it is rather a matter of pride than necessity in most plants to be able to charge, use and understand the functioning of this leg of the apparatus. An outline of the equipment is given in Figure 1. Incidentally, a very compact form of the apparatus has been on the market for years, and was made up for the specific purpose with which we are now concerned, and while it is excellent and in use in nearly every gasoline plant in the country, the seasoned operator or plant chemist has a tendency to lean in preference toward the old reliable glass tube and cock arrangement. This is indicated in the sketch.

Those familiar will recognize at once, B, the leveling bottle, communicating through soft rubber tube, N, with the burette, R, the latter being encased in the water jacket, L. The burette connects through cock, K, the manifold I, and cocks GGG with pipettes, CC, DD and EE, which in turn have their expansion or seal bags, SSS, attached to their rear legs drawn out in tubes as indicated at P. The cock, H, is of the three-way form, having its plug point drawn out in considerable extension as its third way. By its use, communication may be made from the intake end, J, of the capillary manifold, to atmosphere through the cock's third way, or through K to the burette, or through GGG to either of the three pipettes. The marks, O, O, O, O, are to be especially noted. They are heavy and readily seen on the apparatus. They are the zero gauges, or the stopping points all along in the manipulation.

The bags, S, S, S, are important. They have to be attended occasionally, especially those protecting solutions in pipettes, DD, and EE. Since the solutions in both these pipettes consume oxygen readily, these two bags have to have adjustment till they reach a right condition of content of nitrogen, after which they require very little attention, except as again when the apparatus is cleaned out, recharged, etc. Q, are plug stoppered necks. As a matter of fact I have indicated them wrong in position. They should be beneath the other leg of the pipette. They are used for cleaning out and for inserting diffusing fillers in CC and DD and for the same and copper foil in EE. The burette, R, has its lower portion graduated in cubic centimeters and tenths from a zero point, M, to something over 2 per cent of its volume capacity, at M'.



Apparatus used in testing gas for air content.

Operation of Apparatus

Practice in manipulation of the apparatus before actually attempting to use it is very important. With the leveling bottle, B, in one hand, the other manipulating cocks, H, K and GGG air or gas can be drawn into R and transferred back and forth from R to CC, DD or EE, and disposed of through either J or the back outlet of H. It will be found easy to draw into burette, R, a charge somewhat in excess of its 100 per cent capacity as indicated by the zero mark at M, and then, through the third way opening in the cock, H, to release or displace however much we desire of R's gas content.

This is done, of course, by the position, up or down, of bottle, B, and the water contained, since, with the bottle down, water flows from the burette into bottle; bottle up, water flows into burette. The matter of charging burette with gas throng, J, then bringing B slowly and carefully to right level alongside M-M' until the excess content over 100 of the burette, (reading as 100) is thrown out through cock, H, to atmosphere and having R filled to 100 volume at atmospheric pressure requires skill and practice to do it deftly and the same way each time.

Let us imagine CC is filled, as indicated, and previously adjusted with its solution drawn up to indicator mark, O, of the front pipette leg. We can now, by opening cock, K, and G of CC, and elevating bottle, B, transfer the gas content of the burette into the front leg of CC, backing CC's solution up into its rear leg. When we do this, we naturally stop the transfer at the point when the water from B rises in the burette to the stop mark, O. Likewise, when we transfer back to R, the stop mark, O, of CC is carefully used, especial care being taken that none of the solution is ever drawn over into R from either of the pipettes. It would be possible, of course, to overcome such an accident without re-solutioning all around, but the results for the particular charge of gas being run would be no good. The water from the burette and bottle would have to be thrown out, replaced with fresh and the capillary of the manifold should be washed out and flushed either into the several pipettes or to atmosphere through extension to the left of the last G cock. The experienced manipulator simply doesn't have such accidents.

In like manner transfers may be made from R to DD and EE. The procedure is to make these transfers frequently and long enough until on return of the sample to R, the reading of volume becomes constant. It is to be remembered that any reading of volume above O on M-M' is now direct reduction by difference read in per cent volume from that with which we started. So, if our first pipette contains potassium hydrate, KOH, the second, DD, contains pyrogalol, and the third the alkaline ammonium chloride solution previously described, we may work progressively from burette through the three pipettes for the determination of CO2 first; O_2, oxygen, second; and carbon monoxide, CO, last. If nitrogen is to be properly estimated beyond that which is relatively present as air with the oxygen, we must go beyond this extent of analyses and resort to combustion, etc. Technical Paper No. 320, published by the Bureau of Mines goes into this further treatment.

Sources of Error

The desire here is to call attention to the prevalent sources and liabilities of error. It can occur, first in sampling; leaky connection with too rapid bottle manipulation, whereby considerable vacuum may be induced during a part of the sample stroke. Second, in leveling to measure the sample charge at atmospheric pressure wherein too much speed may sustain erroneous reading, or through insufficient time since sample was taken wherein the same may not have reached a temperature the same as that existing in the apparatus and its solutions. This latter is particularly offensive in its liability to read error into the work. Third, leaky cocks or connections in the apparatus itself. This detail can always be checked out just prior to use of the apparatus, but careless or inexperienced handling can readily enough subject the apparatus to excessive pressure and open up leaks during sampling.

After transferring to pipette, DD, for removal of oxygen, considerable time may elapse in this stage of performance. If any material change takes place of the temperature of the apparatus and its contents, the volumetric variation of the gas charge will appear as error of air computation to the extent of nearly five times the volume variation error. Thus it will be seen that especially for determination of air content, the work of manipulation must be so arranged as to avoid temperature change during this portion. Computing oxygen found to equivalent volume of air at the rate of 20.9 per cent, the contraction found, after absorption of the oxygen, times 4.78 will be the amount of air present.

Of course, the work must be done consecutively in the prescribed manner: that is, first removal of CO_2, which is to be accounted for in the further steps all along; second, oxygen determination and, third, carbon monoxide, each observation making allowance for what has already been done. An the purpose of this treatment has not been to enable the novice to take hold of the job without previous training or instruction but rather to aid the man who is now making himself familiar with the work as daily routine, and to save him some perplexities that will arise from a failure to understand the apparatus and its application.

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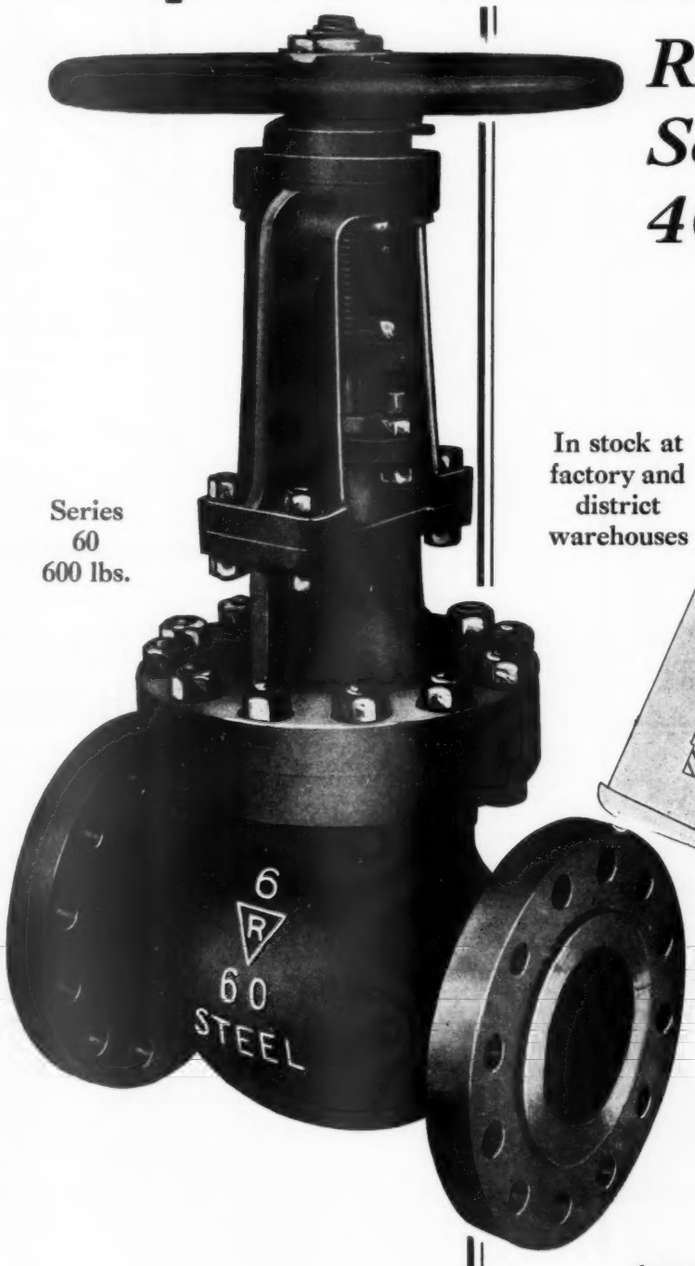

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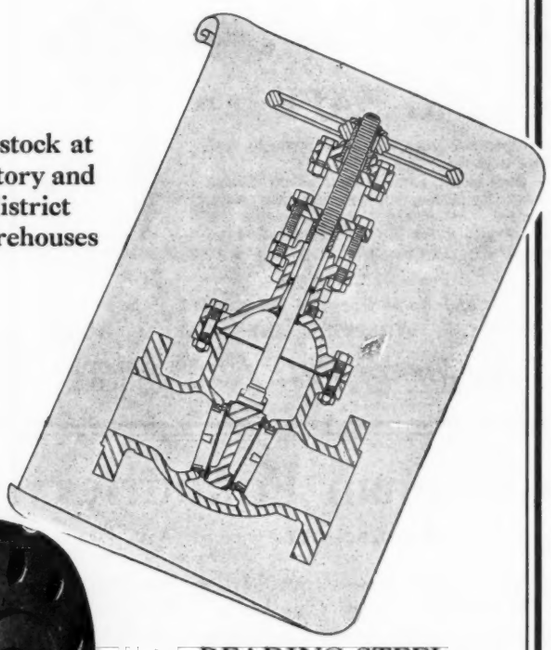

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NEW LOCATIONS

(Continued from Page 83)

of Muenster. Roxana Petroleum Corp.'s No. 2 A. Walterscheid, 450 feet south and 150 feet west of NE cor. of A. Walterscheid's 165-acre tract out of J. W. Littleton Survey, A-586.

Crane County

In Crane County, Landreth Production Corp.'s No. 7 State, 990 feet west and 200 feet south of SE cor. of Section 46, Block 30. Simms Oil Co. and Atlantic Oil Producing Co.'s No. 3 University-D, 990 feet north and 330 feet west of SE cor. of Section 46; No. 4, 990 feet west and 330 feet north of SE cor. of Section 46; No. 5, 330 feet north and 1,650 feet west of SE cor. of Section 46.

Humble Oil & Refining Co.'s No. 11 University Land, 990 feet north and 1,650 feet east of SW cor. of Section 38, Block 30, University Land. Landreth Production Corp.'s No. 7 State Land, 200 feet south and 990 feet west of SW cor. of Section 47, Block 30, University Land and located in Section 201, Block F, C. C. & S. D. & R. G. Survey. Magnolia Petroleum Co.'s No. 4 State-Lasseter, 2,310 feet north and 330 feet west of SE cor. of Section 34, Block 30, University Land.

Eastland County

Louisiana Oil & Refining Co.'s No. 2 W. M. Sneed, 150 feet south and east of NW cor. of south 70 acres of north 145 acres of Section 22, McLennon County School Land, No. 2. Brown Oil Co. and others' No. 1 J. B. Beene, 330 feet south and east of NW cor. of south 66 acres of NW Section 14, Block 3, H. & T. C. Survey.

Glasscock County

Sid Richardson and others' No. 1 Borge Forbes Land Co., 150 feet south and west of NE cor. SW of Section 183, Block 29, W. & N. W. Survey. California Co.'s No. 1 W. B. Currie, 2,970 feet north and 990 feet east of SW cor. of Section 215, Block 29, W. & N. W. Survey.

Hale County

Englishing Drilling Co.'s No. 1 Mullican, 2,640 feet south and 200 feet east of NW cor. of Section 66, Block 3-A, L. & S. V. Survey.

Hockley County

World Oil Co.'s No. 1 Wilbarger County School Land, 330 feet south and east of NW cor. of League 7, Wilbarger County School Land.

Jack County

Buttram Petroleum Co.'s No. 1 J. A. Jones estate, 250 feet south and east of NW cor. of south 400 acres of J. A. Jones estate's 640-acre tract out of Section 5, S. P. R. R. Survey, A-550. O. K. Giles' No. 1 Brentmore, Inc., 3,355 feet south and 1,630 feet west of NE cor. of Section 3, J. W. Williams Survey, A-877. Holman heirs' No. 2 Mrs. L. Holmes' heirs, 655 feet north and west of SE cor. of NE Section 4, S. P. R. R. Survey, A-1,422. Fred Strung's No. 1 Brentmore, Inc., 1,735 feet south and 1,310 feet east of NW cor. of Section 3, J. W. Williams Survey, A-877.

Midland County

Orbit Oil Co.'s No. 1 Carland, C SE of Section 17, Block 39, Township 1s, T. & P. Survey.

Pecos County

In Pecos County, Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co.'s No. 6 Yates-A, corrected location, 500 feet due south of No. 1-C or 1,035 feet east of 250 feet south of SW cor. of Section 60.

Mid-Kansas Oil & Gas Co.'s No. 7 I. G. Yates-A, 250 feet north and 200 feet west of SW cor. of Section 61, Block 1, I. & G. N. Survey, and located in I. G. Yates Survey, A-8,195. Red Bank Oil Co.'s No. 1 McKenzie, C N half of Section 126, T. & St. L. Survey. Simms Oil Co.'s No. 1 A. J. Devlin, C NE of Section 12, Block 193, G. C. & S. F. Survey.

Throckmorton County

Cranfill & Reynolds' No. 2 R. F. Lee, 240 feet east of middle of west line of NE SW, Section 221, B. B. B. & C. Survey; No. 3, 150 feet south and west of middle of the E line of NE SE of Section 198, same survey.

Tom Green County

H. D. Camp and others' No. 1 Wilkey,

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200 feet south and 310 feet east of NW cor. of Section 4, Blind Asylum Lands.

Upton County

In Upton County, Prairie Oil & Gas Co.'s No. 2 Allie Lane, corrected location SE cor. SW SW of Section 3, G. C. & S. F. Survey. Dixie Oil Co.'s No. 26 Burleson, 330 feet south and 3,630 feet east of SW cor. of Section 6, G. C. & S. F. Survey, direct south offset to Roxana Petroleum Corp.'s No. 16 Bowen, and located in Section 2, John Nidever Survey.

Marland Oil Co. and L. Smith's No. 1 University Land, 2,640 feet south and 1,320 feet west of NE cor. of Section 17, Block 5, University Land. Tidal Oil Co.'s No. 1 A. S. Burleson, 330 feet south and west of NE cor. of Section 3, G. C. & S. F. Survey, A-230, and located in J. Nidever Survey, No. 2, A-149.

Wichita County

Petroleum Production Co.'s No. 8 "Shallow" M. A. Love-B, 150 feet south and 620 feet east of NW cor. of Lot 18, W. S. Hennard Survey, A-171. D. H. Sanford and others' No. 1 W. F. Hamilton, 2,085 feet due south and 1,485 feet due west of NE cor. of L. C. Gibbs Survey, A-391.

Wilbarger County

Humble Oil & Refining Co.'s No. 1 R. L. Castleberry-A, 150 feet north and 490 feet west of SE cor. of Section 67, Block 14, H. & T. C. Survey. Landreth Production Corp.'s No. 1 W. T. Waggoner, 150 feet north and east of SW cor. of SE Section 36, Block 6, same survey.

Young County

Christie & Maddox's No. 1 Weichman, 150 feet south and 530 feet west of NE cor. of Section 173, T. E. & L. Survey. Hester & Hawkins' No. 1 E. F. Farrow, 795 feet south and 465 feet west of NE cor. of Section 1,359, same survey. E. L. Smith's No. 1 J. W. Thomas, 150 feet south and east of NW cor. of J. W. Thomas' 160-acre tract out of Section 1,901, same survey. Bert Brookins' No. 1 Mrs. S. L. Thornton, 2,190 feet north and 300 feet east of SW cor. of Henry Garms Survey, A-104. Conner and others' No. 9 E. N. McCluskey, 200 feet south and 225 feet east of NW cor. of north 25 acres of south 100 acres of Section 3,415, T. E. & L. Survey, A-1,234. Coons & Hotchkiss' No. 1 W. T. Parkinson, 1,275 feet SE of NW line and 330 feet NE of SW line of Section 2,693, T. E. & L. Survey, A-1,132. Pemeta Oil Co.'s No. 2 J. J. Scott-A, 200 feet north and east of SW cor. of W. M. Johnson Survey, A-159. Ramsey and others' No. 2 Mrs. S. I. Payne and others, 200 feet south and 225 feet west of NE cor. of west 40 acres of W. E. Smith Survey, A-1,752. Simms Oil Co.'s No. 1 H. L. Ribble, 330 feet NW of SE line and 480 feet SW of NE line of H. L. Ribble's 170-acre tract heirs out of George Derrick Survey, A-75.

Corrected Locations

Hutchinson County: Navajo Oil Co.'s No. 1 E. Cockrell-Richardson, 320 feet south and 220 feet west of NE cor. of SE 20 acres of NW 80 acres of Section 2, Block 3-B, D. & S. E. Survey.

Wichita County: Petroleum Producers Co.'s No. 2 S. I. & H. M. Munger, 150 feet south and 1,480 feet east of NW cor. Section 31, Kemp's Wichita Valley lands.

Eastland County: Wentz Oil Corp.'s No. 1 J. G. Stidville, 1,400 feet south and 200 feet west of NE cor. of Section 121, Block 3, H. & T. C. Survey.

Callahan County: White Eagle Oil & Refining Co.'s No. 1 J. O. Hall, 660 feet north and 3,995 feet east of SW cor. of Section 1, T. & P. Survey.

Brown County: Fulton Oil Co.'s No. 1 Susan Earp, 200 feet south and east of NW cor. SE, Susan Earp Survey, No. 4, A-300.

Pecos County: Bob Elmore's No. 1 M. Holmes, C SW of the E half of Section 542, Brooks & Burleson Survey, A-5,840.

Jones County

In Jones County, World Oil Corp.'s No. 1 L. E. C. Boyd, 2,130 feet from the west line and 150 feet from the south line of Section 266, Block 10, S. Jones Survey, A-244, corrected location.

Taylor County

In Taylor County, Gilbert Johnson's No. 1 C. M. Brown, 660 feet from the south and west of SE of Section 1, Block 6, T. & P. Survey, corrected location.

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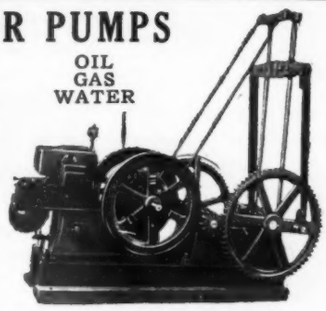

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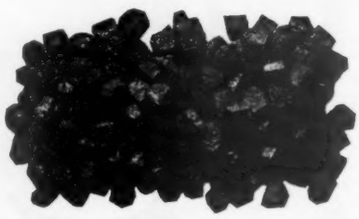

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Deep Sand Section In Spindletop Pool Production and Runs

By P. L. McGreal

BEAUMONT, Tex., June 18.—The manner in which the deep sand section on the southwest flank of the original Spindletop Pool is holding up is causing much comment among operators, whether they are financially interested in the pool or not.

The deep sand area, which covers approximately 30 acres, was opened late in 1925 but did not strike its full stride until just about one year ago. Three months ago sands were uncovered at from 5,200-5,400 feet on the south end of the productive area, which gave the pool a new lease of life. At present the Magnolia Petroleum Co., the Gulf Production Co. and the Sun Oil Co. are concentrating on that end, offsetting one another The Magnolia company is drilling on its Gladys and fee, or tank farm lands; the Gulf company on the Oakwood and the McLean five acres, which it recently took over from the Atlantic Oil Producing Co. The Sun company is drilling on its McLean.

The production of the pool on June 1 was 58,848 bbls. from 124 wells, or an average of about 470 bbls. to the well. Eighteen of the wells are flowing naturally, the rest being on air or pumping powers. Many of the wells producing from the upper sands, say 2,400 to 3,400 feet, are making as high as 95 per cent sediment and water and of the total number of producers, only 18 are credited with pipe line oil.

The Yount Lee Oil Co. has 36,388 bbls. of the gross output of the pool from 64 wells. The Gulf Production Co. has 17,524 bbls. from 36 wells. These two companies lead in the development work.

Pipe Line Runs

The pool is served by five pipe lines and the runs during the month of May were 1,335.157 bbls., to which should be added 386.496 bbls., which the Yount Lee Oil Co. ran into its own steel storage.

Recapitulation

Company and Lease—	No. Wells	Prod.
Rio Bravo, T. & N. O.	13	2,585
Yount Lee, McFaddin	27	16,732
Yount Lee, fee	17	11,822
Yount Lee, Gladys	15	5,039
Yount Lee, Davis	4	2,750
Yount Lee, Trembly	1	45
Gulf Prod., Jack & Duff	3	912
Gulf Prod., Mann	6	219
Gulf Prod., Oakwood	6	6,247
Gulf Prod., Roache	7	1,083
Gulf Prod., Weed	6	4,105
Gulf Prod., McLean	8	139
Sun Co., McLean	3	4,759
Sun Co., Price	1	485
Magnolia Pet., Gladys	2	1,487
Miscellaneous	5	379
Total June 1	124	58,848

Runs from the various leases in the deep sand section at Spindletop during the month of May were as follows:

Pipe Line Co. and Lease—	Bbls. May
Magnolia P. L., McLean	996
Magnolia P. L., Gladys	74,921
Texas P. L., T. & N. O.	26,567
Texas P. L., McFadden	74,596
Sun P. L., McFaddin	127,625
Sun P. L., Gladys	78,850
Sun P. L., fee	75,267
Sun P. L., Trembly	392
Sun P. L., Price	10,266
Sun P. L., McLean	63,657
Gulf P. L., Oakwood	156,886
Gulf P. L., Roche	37,278
Gulf P. L., Mann	7,678
Gulf P. L., Jack & Duff	29,014
Gulf P. L., McLean	5,335
Gulf P. L., McFaddin	72,431
Gulf P. L., Weed	106,596
Gulf P. L., Gordon	1,820
Gulf P. L., Quinn	263
Gulf P. L., Weed	8,078
Gulf P. L., Old Field	23,120
Humble P. L., fee	141,107
Humble P. L., Gladys	24,083
Humble P. L., T. & N. O.	64,484
Humble P. L., Davis	110,684
Humble P. L., McFaddin	11,367
Humble P. L., Pierce	1,796
Total	1,335,157

In addition the Yount Lee Oil Co ran into its own steel storage a total of 386,496 bbls. from the following leases:

Fee, Yount Lee Oil	35,486
McFaddin, Yount Lee Oil	234,111
Gladys, Yount Lee Oil	116,899
Grand total	1,721,653

Summary

Magnolia Pipe Line Co.	75,917
Texas Pipe Line Co.	101,163
Sun Pipe Line Co.	356,057
Gulf Pipe Line Co.	448,499
Humble Pipe Line Co.	353,521
Yount Lee Oil	386,496
Total	1,721,653

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TEXAS OIL MAPS
County and District
Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Detailed Operations in All Fields for Month of May

SUMMARY OF ALL FIELDS

Field—	Comp.	Prod.	Dry	Gas
Eastern	440	2,174	46	59
Lima	22	284	..	..
Michigan	25	434	1	..
Indiana	19	314	8	3
Central Ohio	30	293	6	9
Kentucky	101	2,768	22	7
Tennessee	4	455	..	..
Illinois	9	155	6	5
Mississippi	1	...	1	..
Kansas	105	11,501	40	6
Oklahoma	372	197,341	125	49
Texas Panhandle	90	32,774	4	4
West Texas	91	29,180	31	..
North Central Texas	306	33,928	133	9
East Central Texas	6	...	6	..
Arkansas	36	1,176	14	6
Louisiana	51	869	24	10
Gulf Coast	98	51,375	45	1
Southwest Texas	90	739	44	17
Wyoming	32	45,142	3	1
Montana	26	1,650	8	..
Colorado	12	100	11	..
Utah	2	...	2	..
New Mexico	11	20	9	..
Total May	1,969	412,672	589	186
Total April	2,284	378,181	666	195
Difference	315	34,491	77	9

RIGS AND WELL DRILLING

Field—	Rigs	Drg.	Total
Eastern	113	395	508
Lima	3	27	30
Michigan	12	53	65
Indiana	2	51	53
Central Ohio	32	54	86
Kentucky	7	152	159
Tennessee	0	31	31
Mississippi	12	18	30
Alabama	0	6	6
Florida	2	13	15
Illinois	5	26	31
Kansas	55	221	276
Oklahoma	218	1,180	1,398
Texas Panhandle	46	280	326
West Texas	48	277	325
North Central Texas	44	432	476
East Central Texas	0	20	20
Arkansas	16	45	61
Louisiana	40	95	135
Gulf Coast	29	156	185
Southwest Texas	23	133	156
Wyoming	28	244	272
Montana	7	131	138
Utah	1	36	37
Colorado	7	98	105
New Mexico	11	124	135
Total, May	761	4,298	5,059
Total, April	793	4,520	5,313
Difference	32	222	254

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and wells drilling are set forth in similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	22	3,364	6	2
Creek	53	3,333	16	7
Grady	26	2,407	7	9
Garfield	3	209	2	..
Kay	23	3,253	5	5
Muskogee-Wagoner	35	210	25	4
Okfuskee	11	179	3	5
Okmulgee	22	95	12	4
Osage	31	4,069	11	2
Pawnee	7	15	6	..
Payne	3	40	1	1
Pottawatomie	9	33,201	1	..
Seminole	88	143,345	13	3
Stephens-Cotton	13	3,391	3	2
Tulsa	3	25	..	1
Miscellaneous	23	205	14	4
Total May	372	197,341	125	49
Total April	458	147,248	144	48
Difference	86	50,093	19	1

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Carter	9	47	56
Creek	31	86	117
Garfield	1	17	18
Grady	9	58	67
Grant	1	8	9
Hughes	2	19	21
Kay	4	46	50
Lincoln	..	18	18
Logan	..	11	11
Muskogee and Wagoner	5	21	26
Okfuskee	14	27	41
Okmulgee	14	22	36
Osage	10	65	75
Payne	1	13	14
Pawnee	3	23	26
Pontotoc and Garvin	4	29	33
Pottawatomie	25	86	111
Seminole	71	462	533
Stephens and Cotton	4	36	40
Tulsa	2	13	15
Miscellaneous	8	73	81
Total May	218	1,180	1,398
Total April	240	1,185	1,425
Difference	22	5	27

CARTER COUNTY

18-1s-3w Dixon, Humble O. & R. Co. 3.. 100
Dixon, Westheimer 3 ..... dry
19-1s-3w W. Hardin, Magnolia Pet. 4... gas
29-1s-3w Spears, Magnolia Pet. Co. 2... 100
34-1s-3w Fish, Magnolia Pet. Co. 9..... 75
2-2s-3w Calvery, Humble O. & R. Co. 5 720
10-2s-3w Grimes, Magnolia Pet. Co. 1.. 150
11-2s-3w Carpenter, Wirt Franklin 1... dry
Lyles, Roxana Pet. Co. 1..... 185
27-2s-3w Love & Thurman, Wirt Franklin 7 30
7-2s-2w Higgins, Coline Oil Co. 4..... 30
21-2s-2w Wilson, Magnolia Pet. Co. 6.. 22
9-4s-2w Lowery, Simpson & Fell 3.... 46
19-1s-3w W. Hardin, Magnolia Pet. Co. 5 1475
23-1s-3w Lewis, Magnolia Pet. Co. 1... 405
18-1s-3w Jordan, Humble O. & R. Co. 12 dry
19-1s-3w Jordan, Humble O. & R. Co. 9 dry
17-1s-3w Peck, Magnolia Pet. Co. 1..... dry
19-1s-3w Jordan, Humble O. & R. Co. 13 15
33-1s-3w Bumpass, Humble O. & R. Co. 1 dry
12-2s-3w Kenedy, Pure Oil Co. 2..... 10
29-2s-3w Dougherty, Phillips Pet. 3-A. gas

Wells completed 22
Production 3364
Dry 6
Gas 2
Gas production 34,000,000

CREEK COUNTY

19-19- 8 Miles, Steinberger & Smith 3.. gas
30-18- 8 Holman, J. O. Walters et al 1. dry
22-18-11 Strip, Cole et al 1..... dry
6-18-12 Townsite, Denver Fuel Co. 1.. 50
Townsite,, W. S. Dickey 1..... 10
Townsite, A. B. Ice et al 1..... 25
1-17-10 Unallotted, Henry Oil Co. et al 1 ..... dry
12-17-10 Turner, W. H. Elson et al 2.. 25
16-17-11 Broadnox, Thompson & Black 1 gas
16-16- 9 Unallotted, Stoker et al 3..... 15
18-14-10 Wolfe, Independent O. & G. 1. 50
32-14-10 Harjo, T. B. Slick & Fuhrman 2 40
10-17- 9 Flint, Prairie O. & G. Co. 1.... 20
35-15- 7 Shepard, Prairie O. & G. Co. 1. 35
20-19- 8 Canard, Steinberger & Smith 1. gas
5-18- 7 Riverbed, Riverside Oil Co. 4. 80
17-18- 7 Starr, Silurian Oil Co. 5..... 12
30-15- 8 Helacowney, Phillips Pet. 1.. gas
35-19- 9 Curtis, Kessler Drlg. Co. 1.... dry
35-18- 9 Beavers, A. T. Roach 1..... 20
6-18-12 Townlot, J. S. Stout 1..... 50
16-17-11 Wilson, Thompson & Black 1. gas
9-14-10 Unallotted, C. G. Tibbens 1.... 250
17-17- 8 Bruner, Shaffer O. & R. 3.... 130
7-18-10 King, G. M. Oil Co. 1..... dry
5-18-12 Townlot, C. B. Short 1..... dry
6-18-12 Townlot, Henson & Gilliland 1. 40
Townlot, Kolb et al 1..... dry
12-17-10 Turner, Thompson & Black 1.. 215
13-17-10 Tiger, Cumberland Oil Co. 5.. 35
Fulson, Pontiac Oil Co. 2..... 800
24-17-10 Tahkaney, J. H. Wright 17... 60
9-17-11 Inman, Eliza Tim Oil Co. 2.... gas
18-17-11 Sparks, J. R. Cole et al 3.... 25
2-16-11 Anthis, Twin State Oil Co. 1.. 60
34-16-11 Lowe, Iron Mtn. Oil Co. 2..... dry
16-14-10 Bear, Atlantic P. Co. et al 4 230
36-16- 7 Strip, C. L. Freeland 1..... 30
13-19- 8 Bartlett, J. B. Grieves 1..... 75
27-19- 8 Williams, Gled Oil Co. 1..... dry
24-17- 7 Ingalls, Transcontinental Oil 2 80
21-17- 8 Hoover, Transcontinental Oil 3 dry
10-16- 8 Bruner, F. R. Billingslea 1.... dry
29-14- 8 Mitchell, Pure Oil Co. 3..... 250
30-14- 8 Fixico, Gypsy Oil Co. 1..... 220
9-18-10 Jackson, Bu-Vi-Bar Pet. Corp. 1 dry
13-17- 9 Carter, Abbott & Dillard 1.... dry
7-17-10 Tannes, Dixie Drlg. Co. 1..... dry
25-17-10 Berryhill, O. M. Irelan 1..... dry
5-16-10 Provence, Elson & Detrick et al A-1 ..... dry
30-15- 9 Unallotted, C. G. Tibbens 36... 350
6-18-12 Townlot, Farquran et al 1..... 40
4-17-11 Fife, S. J. Smith et al 5..... gas

Wells completed 53
Production 3333
Dry 16
Gas 7
Gas production 50,000,000

GRADY COUNTY

35-5-8w Dryden, Hall & Briscoe 1..... gas
14-4-8w Pendley, Magnolia Pet. Co. 3.. gas
21-3-5w Kerans, Carter Oil Co. 1..... dry
28-3-5w Wilde, Joe Anderson 1-A..... dry
22-5-8w Sanford, Okla. Nat. Gas Co. 3. gas
26-5-8w Farwell, Little Nick Oil Co. 3. gas
35-5-8w Smith, Magnolia Pet. Co. 2.... gas
11-4-8w Williams, J. B. Nichols 1-A.... gas
16-3-5w Walford, Carter Oil Co. 5..... 135
17-3-5w Woods, Magnolia Pet. Co. 1... gas
21-3-5w C. Kerans, Carter Oil Co. 2.... 687
C. Kerans, Carter Oil Co. 3..... 100
22-3-5w Miller, Carter Oil Co. 4..... 100
25-4-6w Glascoe, Empire G. & F. Co. 1. dry
1-3-6w Pipps, Smith & Son 1..... dry
21-3-5w Hogue, Carter Oil Co. 1..... 150
White, Carter Oil Co. 1..... 90
22-3-5w Miller, Empire G. & F. Co. 1.. dry
Miller, Magnolia Pet. Co. 1.... gas
1-3-6w Pipps, Smith & Son 1..... dry
8-3-5w Huseman, Carter Oil Co. 1..... 120
Nash, Carter Oil Co. 1..... 60
16-3-5w Walford, Carter Oil Co. 6..... 688
17-3-5w Woods, Carter Oil Co. 2..... gas
21-3-5w Miles, Kerans, Carter Oil Co. 2 277
21-3-5w Kerans, Clark & Cowden 3.... dry

Wells completed 26
Production 2407
Dry 7
Gas 9
Gas production 219,000,000

GARFIELD COUNTY

19-22-3w Kisner (W), Sinclair O. & G. Co. 39 ..... dry
13-22-4w Walker (N), Sinclair O. & G. Co. 73 209
Denker, Sinclair O. & G. Co. 29 dry

Wells completed 3
Production 209
Dry 2

KAY COUNTY

21-29-1w Buell, Comar Oil Co. 12-W.... 52
Friboth, Comar Oil Co. 1-W.. 465
Friboth, Comar Oil Co. 10-W. 366
4-27-1w Moore, Harold Pet. Co. 2..... gas
5-27-1w Savage, Vic Oil Co. 2..... dry
9-25-2w Miller, Marland Oil Co. 1..... gas
1-26-2w Smith "B," Prairie O. & G. 2.1,022
1-29-1w McCormick, Comar Oil 1-W.. 400
11-28-1e Lowery, Okla. Northern O. & G. 1 ..... dry
3-27-1w Moore, Ark. Fuel Oil Co. 3.... 20
19-27-1w Gaylor, Marland Oil Co. 1-A.. gas
31-27-2e Harris, Wentz Oil Co. 1-G.... gas
15-25-2w Thomas, Marland Oil Co. 2.... dry
30-25-1w Sutton, Carter Oil Co. 1..... dry
19-27-1w Hall, Sinclair Oil 1 ..... gas
1-26-2w Smith "B," Prairie O. & G. 8 80
Smith "B," Prairie O. & G. 10 450
Smith "B," Prairie O. & G. 11 100
17-29-1w Moore, Twin State Oil Co. 2.. 20
21-29-1w Buell, Comar Oil Co. 7-W.... 20
McCormick, Comar Oil Co. 5-W 75
6-26-1w Glasgow, National Union Oil and Marland Oil 1 183
10-25-2w Rupe, Marland Oil Co. 1 ..... dry

Wells completed 23
Production 3253
Dry 5
Gas 5
Gas production 79,168,000

MUSKOGEE AND WAGGONER COUNTIES

2-18-15 Davis, Cartwright & Kyle 3... dry
4-18-16 Grayson, F. E. Webb et al. 1.. dry
26-17-16 Bright, Bryan & Emery 2..... dry
12-17-17 Ware, J. E. Thompson 1..... dry
20-16-15 Ashbury, F. E. Webb et al. 4.. 15
14-16-16 Lunnon, M. E. Johnson 2..... dry
Grayson, Mitchell Oil Co. 1.... gas
16-15-17 Roberts, Denton & Marshall 1 dry
5-18-16 Fitzgerald, Carder-Green 1.... dry
6-18-16 Dryden, Hodges & Elliot 1.... dry
9-18-16 Barnett, D. R. Owens 1..... gas
10-18-16 Bilby, Individual Oil Corp. 1.. dry
7-17-15 Scott, Argue & Compton 1.... dry
7-16-15 Reynolds, C. W. Gillett 2..... dry
29-15-15 Morris, E. Price 5..... dry
7-15-16 Smith, H. B. Middleton 5..... dry
34-15-16 Robbins, K. Wassof 1..... dry
17-15-17 Warrior, W. R. Sommerville 3.. 50
10-15-18 Durant, C. M. Bradley 1..... dry
5-14-19 Goodrick, C. M. Bradley 4..... 50
34-19-15 Cook, Garden-Green 1..... dry
35-19-15 Holmes, Carden- Green 1..... dry
11-18-15 Lucky, H. H. Taylor 1..... dry
21-18-16 Tiger, Creekmore, Morrison & Alford 7 ..... dry
Tiger, Creekmore, Morrison & Alford 8 10
Tiger, Creekmore, Morrison & Alford 9 10
Tiger, Creekmore, Morrison & Alford 16 ..... gas
29-18-16 Hawkins, Vick Oil Co. 4..... dry
7-18-17 McQuinn, McIntyre & Kinney 1 dry
McQuinn, McIntyre & Kinney 2 dry
14-16-16 Lunnon, G. S. Wilson 1..... gas
17-15-17 Lewis, Jolly Ogg Oil Co. 1.... dry
Lewis, W. R. Sommerville 1.. 75
36-17-16 Bruner, M. E. Johnson 2..... dry
32-16-18 Hawkins, A. A. Williams 2..... dry

Wells completed 35
Production 210
Dry 25
Gas 4
Gas production 4,850,000

OKFUSKEE COUNTY

25-13-10 Harjo, Reams et al. 1..... dry
32-12-11 Hulsey, Jones Oil Co. 5..... 25
1-10- 9 Deer, Burk-Greis Oil Co. 1.. gas
35-11-11 Tiger, The Texas Company 2.. gas
29-12-10 Hall, C. D. McMahon et al. 1.. 140
14-11-10 Scott, Amerada Pet. Co. 1.... 14
36-11-11 Holmes, W. L. Umburn 2..... gas
17-10- 9 Carolina, McCullough Oil Co. 1 dry
21-10- 9 Tecumseh, Mid-Continent Pet. 1 gas
30-11-10 Grayson, Empire G. & F. Co. 1 gas
27-13-11 Jones, H. H. Diamond 3..... dry

Wells completed 11
Production 179
Dry 3
Gas 5
Gas production 72,000,000

OKMULGEE COUNTY

24-16-13 Tiger, A. D. McDonald 1..... 10
23-15-12 Willis, Sheridan Oil Co. 1.... dry
4-14-12 Burton, Phillips Pet. Co. 1.... 35
31-12-12 Jordan, Hampton & Wylee 1-A 10
34-13-14 Fat, Barbara Oil Co. 9..... dry
20-12-13 Johnson, G. F. Hahn 1..... dry
20-16-11 Pence, G. Simmons et al. 2.... dry
22-16-11 Escoe, Sinclair O. & G. Co. 1 dry
8-12-12 Bird, B. Morgan 1..... 10
16-14-14 Love, W. B. Raney 4..... gas
30-16-14 Phillips, X. K. Stout 2..... dry
13-15-11 Cobb, L. C. Wheeler et al 1-A dry
5-15-12 Hickey, Holmes et al 2-A..... dry
13-11-13 Fisher, B. Morgan 1..... gas
Hawkins, Nicholson Corp. 1.. gas
3-15-14 Rentie, Hennessey 2..... dry
9-15-14 Ware, Carr Peterson 1..... gas
11-15-14 Francis, Misner & Moore 10.. dry
19-14-15 Rentie, M. S. Mussellum 2.... 10
3-15-12 Arnold, Wheeler & Empire G. & F. 1 ..... dry
14-12-12 Key, Simms Pet. Co. 1-A..... dry
32-12-12 Tunnelly, Seburg et al. 1-A.... 20

Wells completed 22
Production 95
Dry 12
Gas 4
Gas production 10,250,000

OSAGE COUNTY

7-27- 6 Phillips Pet. Co. 10..... 125
23-27-11 Midland Oil Co. 1..... 15
20-26- 6 Phillips Pet. Co. 7..... 100
28-26- 6 Skelly Oil Co. 12..... 160
2-25- 5 Barnsdall Oil Co. 1..... dry
29-25- 8 The Texas Company 5..... dry
30-25- 8 The Texas Company 13..... 60
The Texas Company 14.. 80
6-21-10 Peters Pet. Corp. 1..... dry
Peters Pet. Corp. 1..... dry
28-26- 6 The Texas Company 11..... dry
35-26-11 Phillips Pet. Co. 1..... gas
17-24- 9 Pantex Oil Co. 1..... 15
5-20-10 Graham & McElroy 1..... dry
7-27- 6 Phillips Pet. Co. 11..... 50
17-27- 6 Phillips Pet. Co. 3..... 100
28-27- 6 Gypsy Oil Co. 4..... 1364
Gypsy Oil Co. 5..... 1517
30-24- 9 I. D. Simmons 3..... dry
20-23-10 I. T. I. Oil Co. 361..... dry
23-20-10 Sand Springs Home 1..... dry
21-29- 9 Wah-Shi-She Oil Co. 1..... 5
35-29-10 L. C. Duffield 17..... 8
28-26- 6 The Texas Company 9..... 125
The Texas Company 10..... 125
29-26- 6 Phillips Pet. Co. 4..... 70
Phillips Pet. Co. 12..... 110
7-24- 7 Phillips Pet. Co. 1..... dry
26-23- 8 I. T. I. Oil Co. 364..... gas
15-21- 9 A. J. Wright & J. A. Davis 1 dry
28-21-10 Tidal Oil Co. 2..... 40

Wells completed 31
Production 4,069
Dry 11
Gas 2
Gas production 6,750,000

PAWNEE COUNTY

21-21- 6 Bew, Gypsy Oil Co. 1..... dry
16-21- 7 School land, Barnsdall Oil Co. 1 dry
9-20- 6 S. M. Fugate, Magnolia Pet. 4.. dry
17-20-10 LeMaster, Sheridan Oil Co. 1.. dry
7-20- 8 Martin, Sheltz et al. 4..... dry
22-20- 7 Cowan, Ora Steen 2..... dry
20-20- 7 Laramy, Turner et al. 1..... 15

Wells completed 7
Production 15
Dry 6

PAYNE COUNTY

21-19-1w Lewis, Ponca O. & G. Co. 1.. dry
14-19-5 Norman, Twin State Oil 1..... 40
9-18-5 Harris, Shaffer O. & R. Co. 1.. gas

Wells completed 3
Gas 1
Dry 1
Production 40
Gas production 11,000,000

POTTAWATOMIE COUNTY

8-9-5 Dobbs, Philmack & Marland O. 2.7047
4-9-5 Cowden, Amerada Pet. Co. 1.. 6264
8-9-5 Knappenburger, Independent & Darby Pet. 1 3308
9-9-5 Bryant, J. E. Crosbie 1..... 6480
Gram, Phillips Pet. Co. 1..... dry
McFarland, Gypsy Oil Co. 1.. 1277
McFarland, Gypsy Oil 2..... 2660
30-1-4 Davis, C. J. Wrightsman 1..... 1600
9-9-5 McKinley, Mid-Continent Pet. 2.4565

Wells completed 9
Production 33,201
Dry 1

SEMINOLE COUNTY

33-10-6 Youngblood, F. J. Searight 1-A dry
10- 9-6 Harbor, Roxana Pet. Co. 2..... gas
22- 9-6 Harbor, Roxana Pet. 1..... 1658
23- 9-6 M. Killing, Carter Oil Co. 7... 1965
Vierson, Carter Oil Co. 1..... 1500
Vierson, Carter Oil Co. 2..... 100
34- 9-6 Strothers, Carter Oil Co. 2..... 2805
35- 9-6 Cudjo, T. B. Slick 2..... 281
7- 9-8 Alexander, Independent O. & G. Co. 1 41
14- 8-6 Harjo, Sinclair O. & G. Co. 3.. 6865
15- 8-6 Rascoe, Amerada Pet. Co. 3.... 1195
Rascoe, Amerada Pet. Co. 4.... 1620
Rascoe, Amerada Pet. Co. 5.... 1155
Rascoe, Amerada Pet. Corp. 7.. 330
Goforth, I. T. I. Oil Co. 4..... 4589
Walker, I. T. I. Oil Co. 1..... 3459
23- 8-6 Wise, Carter Oil Co. 2..... 6030
24- 8-6 Youngblood, I. T. I. Oil Co. 2.. 5197
31- 8-8 Casey, Carter Oil Co. 9..... 900
32- 8-8 W. J. Long, Independent & Continental 4 67
Bagwell, Magnolia Pet. Co. 4.. 5133
10- 9-6 Carter "A," Prairie O. & G. 3 dry
Co. 3 ..... dry
24- 9-5 Baker, The Prairie O. & G. 1.. 405
33-10-6 Epperson, F. J. Searight 2..... dry
Epperson, F. J. Searight 4..... dry
34-10-6 Grayson, Mid-Continent Pet. 6.. 750
10- 9-5 Peters, Gypsy Oil Co. 2..... 5147
Lena, Magnolia Pet. Co. 2..... 356
15- 9-5 D. Smith, Barnsdall Oil Co. 1.. 5315
10- 9-6 W. Harber, Roxana Pet. Co. 1.. dry
Noble, Superior Oil Co. 2..... dry
14- 9-6 Mayhue, The Texas Company 2 dry
22- 9-6 Harjo, Kingwood & Roxana P. 4 942
23- 9-6 Grisso, Carter Oil Co. 7..... 200
Vierson, Carter Oil Co. 4..... 925
Carter, Gypsy Oil Co. 3..... 472
26- 9-6 Bowlegs, I. T. I. Oil Co. 11.. 236
35- 9-6 J. Cudjo, Independent & Atlantic 2 ..... dry
19- 9-7 Hagler, Shaffer O. & R. Co. 1.. 100
7- 9-8 Cobb & Hill, Independent O. & G. Co. 4 30
10- 8-6 Taylor, Mid-Continent Pet. Co. 2.4821
14- 8-6 S. Harjo, Sinclair O. & G. Co. 1.4170
15- 8-6 Walker, Gypsy Oil Co. 5..... 4080
Livingston, I. T. I. Oil Co. 8.. 2313
Goforth, I. T. I. Oil 3..... 3443
24- 5-5 Netley, Riverside O. & R. Co. 1 48
10- 9-6 Carter, The Prairie O. & G. Co. 2 "A" ..... gas
33-10-6 Davis, Mid-Continent Pet. Co. 1 50
34-10-6 Grayson, Mid-Continent Pet. 5 600
15- 9-5 Sebolka, Barnsdall Oil Co. 1.. 5010
20- 9-6 M. Harjo, C. J. Wrightsman 1.. dry
22- 9-6 Harjo, Kingwood & Roxana P. 3 40
Harber, Roxana Pet. Co. 2..... 146
23- 9-6 Fixico, Independent O. & G. 4 496
Harjo, Tidal Oil Co. 3..... 30
26- 9-6 Bowlegs, I. T. I. Oil Co. 10.. 102
34- 9-6 Jones, Barnsdall Oil Co. 4..... 500
34- 9-6 L. Jones, Turman Oil Co. 4..... 3000
35- 9 6 Cudjo, Atlantic O. P. Co. 4.. 204
Born, T. B. Slick 1..... 111
9- 9-8 Cobb, Independent O. & G. Co. 1 175
14- 8-6 Reed, Pure Oil Co. 1..... 6278
Reed, Pure Oil Co. 7..... 6165
32- 8-8 Lena, Magnolia Pet. Co. 5..... 514
22- 7-7 Coppage, Transcontinental Oil 6 dry
33-10-6 Kinkade, The Prairie O. & G. 10 500
27- 9-6 Strother, The Prairie O. & G. 6.1335
23- 8-6 Gahagan, The Prairie O. & G. 1.3200
10- 8-6 Harber, The Prairie O. & G. 1 .3700
Harber, The Prairie O. & G. 3 3525
10- 9-5 Wilmont, The Texas Company 4 350
11- 9-5 J. Davis, Barnsdall Oil Co. 2.. 300
3- 9-6 Frazier, Carter Oil Co. 4..... 1500
4- 9-6 Chuck, Wilcox O. & G. Co. 1.. 1380
23- 9-6 M. Killing, Carter Oil Co. 9.. 2680
35- 9-6 Simpson, Carter Oil Co. 2..... 110
7- 9-7 Kepeya, Barnsdall Oil Co. 1.. gas
9- 8-6 C. Jones, Sinclair O. & G. Co. 1.3765
14- 8-6 Reed, Pure Oil Co. 6..... 2015
Harjo, Sinclair O. & G. Co. 2.. 5045
15- 8-6 Rascoe, Amerada Pet. Co. 8.... 4860
Walker, I. T. I. Oil Co. 2..... 1275
22- 8-6 Walker, Sinclair O. & G. Co. 1.. 1500
23- 8-6 Wise, Carter Oil Co. 4..... 3385
24- 8-6 Youngblood, I. T. I. Oil Co. 3.. 436
28- 8-6 Johnson, Independent O. & G. Co. and Marland 1..... dry
31- 8-8 Sampson, Ramsey Oil Co. 1..... dry
33- 6-6 Charley, Palmetto Oil Co. 1..... dry

Wells completed 88
Production 143,345
Dry 13
Gas 3
Gas production 5,750,000

STEPHENS AND COTTON COUNTIES

18- 1-5w W. Payne, Geo. Pace 1..... dry
13-1s-4w Underwood, F. W. Merrick et al 1 2800
Krebs, Skelly Oil 3..... 230
29- 1-3w Shaffer, Young, Magnolia Pet. Co. 2 35
25-1s-9w D. Russell, Magnolia Pet. 1... 125
13-1s-4w Dixon, Merrick & Gault 1-B.. 60
Krebs, Skelly Oil 2..... gas

24-1s-4w A. Franklin, Wirt Franklin 1.. gas
27-1s-8w Taliaferro, Medlin et al 1-A.. dry
28-1s-8w Taliaferro, Brown & McAlester 1 31
13-1s-4w G. Martin, Magnolia Pet. 1... 100
3-2s-5w Webb, Magnolia Pet. 7 10
3-3s-5w Sutherland, Fidelity O. & G. 1 dry

Wells completed 13
Production 3391
Dry 3
Gas 2
Gas production 54,000,000

TULSA COUNTY

32-19-12 Townsite, Posey Short 1..... gas
11-18-12 Covey, O. N. West 1-A..... 10
16-18-13 Rentie, L. C. Hivick et al 3.. 15

Wells completed 3
Production 25
Gas 1
Gas production 4,000,000

MISCELLANEOUS COUNTIES

Beckham County—
28- 9-23w Beagle, Magnolia Pet. 1..... gas

Hughes County—
17- 8-10 Cornelius, Dixie Oil 1..... 100
26- 9- 9 Kennedy, Prairie O. & G. 1.. dry

Caddo County—
23- 5-11w Indian, Abernathy 1 ..... dry
3- 5- 9w Townlot, Ray & Edwards 1.. 40

Rogers County—
6-19-17 Smelser, Swift & Davis 1.... dry

Tillman County—
6-5s-14w Hollopath, P. C. Dean et al 1 dry

Noble County—
12-21- 3 Sawyer, Bu-Vi-Bar Pet. 1..... dry

Jefferson County—
26-7s-6w Spain, Gypsy Oil 1..... dry

Major County—
36-21-11w Gray, Frantz & Slick 1..... dry

Kingfisher County—
16-19-5w Kelly, Max Kelly et al 1.... dry

Canadian County—
29-13-5w Pazourick, T. B. Slick & Franks 1 ..... dry

Texas County—
28-3n-13e Zea, Wilcox O. & G. 1..... dry
4-1n-12e Allison, Haley, Garber & Pulse 1 . . .. dry

McIntosh County—
12-12-16 Love, J. A. Sheppard et al 3. dry
4-12-14 Edwards, McInturff Oil 1 .. 15

Logan County—
16-18-4w Gragg, Healdton O. & G. 1.. gas

Grant County—
22-27-3w Lane, Blackwell O. & G. 4.. gas

Garvin County—
15- 1-3w Cowan, Magnolia Pet. 27... gas

Pontotoc County—
5-3- 4 Coon, Carter Oil 1 ..... dry

Oklahoma County—
16-12-3w Edwards, Cromwell O. & G. 1 40

Johnson County—
26-4s- 5 Chisholm, Tom Dees 1..... dry

Lincoln County—
16-13- 6 School land, Mid-Cont. Pet. 1 10

Wells completed 23
Production 205
Dry 14
Gas 4
Gas production 90,346,000

CARTER COUNTY

Rigs

18-1s-3w E. Hardin, Humble O. & R. 5.
N. Hardin, Magnolia Pet. 3.
19-1s-3w Dixon, Humble O. & R. 4.
20-1s-3w Denny, Roxana Pet. 1.
29-1s-3w Ratcliff, Magnolia Pet. 1.
30-1s-3w Akers, Magnolia Pet. 1.
Denny, Magnolia Pet. 1.
33-1s-3w Hefner, Magnolia Pet. 1.
3-2s-3w Pruitt, Wirt Franklin and Prairie O. & G. 11.

Wells Drilling

2-1s-3w Peck, Magnolia Pet. 1.
14-1s-3w Carter, Magnolia Pet. 1.
Pollock, Magnolia Pet. 1-B.
19-1s-3w W. G. Jordan, Humble O. & R. 14.
J. J. Hardin, Magnolia Pet. 7, 8.
W. Hardin, Magnolia Pet. 6, 7, 8.
Dixon "A", Merrick-Gault Oil 2.
28-1s-3w J. H. Jennings, Humble O. & R. 3.
32-1s-3w Morrison, Magnolia Pet. 1.
33-1s-3w L. Bumpass, Magnolia Pet. 4.
2-2s-3w Calvery, Schermerhorn et al 3.
3-2s-3w Liles, Gypsy Oil 6.
10-2s-3w Adams, Magnolia Pet. 11, 12.
11-2s-3w Lyles, Roxana Pet. 2.
Lyles, Schermerhorn 1.
Liles, Atlantic O. P. Co. 3.
Williams, Schermerhorn Oil and Roxana Pet. 1.
21-2s-3w Kimbrell, Carter Oil 4.
Morris, Magnolia Pet. 1.
M. Morris, Magnolia Pet. 1.
22-2s-3w Kimbrell, Carter Oil 5.
23-2s-3w J. Lohman, Magnolia Pet. 14.
26-2s-3w Swartz, Magnolia Pet. 7, 8.
Fee, C. R. Smith 6.
35-2s-3w Lester, Humble O. & R. 6.
6-2s-2w Higgins, Coline Oil 6.
7-2s-2w Higgins, Coline Oil 9.
Watkins, Iowa Oil 1.
8-2s-2w Pierce, Carter Oil 2.
16-2s-2w G. Cox, Magnolia Pet. 5.
Gladney, Atlantic Oil Prod. 1.
17-2s-2w Riley, Magnolia Pet. 1.
26-2s-2w Harmon, Magnolia Pet. 1.
22-3s-1e Noble, E. Trout 1.
33-4s-1w Simpson, Magnolia Pet. 1.
13-4s-2w Sarasota, Roxana Pet. 1.
35-4s-2e Miller, Magnolia Pet. 1.
2-5s-3w Frazier, Roxana Pet. 1.
20-5s-1e Criner, Amerada Pet. 11.

Shut Down

18-1s-3w Dixon, Westheimer 2.
19-1s-2w Morris, McGahee 1.
16-2s-2w M. Cox, Magnolia Pet. 5.
Rigs, 9; wells drilling, 47; total, 56.

CREEK COUNTY

Rigs

16-17- 8 Morrison, Shaffer O. & R. 2.
24-15- 7 Benifield, Bu-Vi-Bar Pet. 1.
36-15- 7 Bigpond, Olean Pet. 2.
10-15- 8 Durant, H. C. Wilson 1.
26-15- 8 Narchubby, C. G. Tibbins 1.
30-14- 8 Kernal, Pure Oil 6.
7-19- 9 Tahkaney, Dixie Oil 1.
19-18- 9 Grayson, Haddock et al 1.
4-18-10 Berryhill, Sherry et al 1.
6-18-10 Harjo, T. E. Mann 1.
1-18-11 McGuire, Gypsy Oil 23.
6-18-12 Townlot, A. B. Ice et al 1.
Townlot, Valley Osage Oil 1.
Townlot, Verser et al 1.
1-17-10 Wilcox, Margay Oil 3.
8-17-10 Pemberton, W. S. Turman 3.
13-17-10 Joconton, McCullough Oil 3.
Fulson Pontiac Oil 1.
19-17-10 Dickson, Elson et al 1.
24-17-10 Tahkaney, J. H. Wright 18.
30-17-10 Sneed, Independent O. & G. 2.
32-17-10 Yellowhead, Skelly Oil 4.
35-17-10 Bucktrot, Hiram O. & G. 5.
9-17-11 Inman, Liza Tim Oil 3.
18-17-11 Myer, Cumberland Oil 4.
21-16- 9 Jacobs, L. Emery & Sons 8.
Hendrickson, Jackson & Wise 8.
Hendrickson, Love & Meters 3.
33-15- 9 Marshall, C. G. Tibbens 1.
29-14- 9 Abraham, The Texas Company 1.
20-14-10 Scott, Donnelly et al 3.

Wells Drilling

8-18- 7 Yarhola, Riverside Oil 2.
9-18- 7 Long, Sinclair O. & G. 15.
17-18- 7 Starr, Silurian Oil 24.
22-18- 8 Frailey, J. O. Buckles et al 1.
16-17- 8 Strip, Burk-Greis 2.
Morrison, Shaffer O. & R. 4.
17-17- 8 Wright & Burner, Shaffer O. & R. and Prairie 1.
36-17- 8 Forres, Producers Oil 1.
13-15- 7 Dean, Mid-Cont. Pet. 1.
36-15- 7 Tiger, R. J. Jennings 2.
Bigpond, Devonian and Independent O. & G. 2.
10-15- 8 Lewis, F. R. Billingslea 1.
20-15- 8 Beaver, Gray Oil et al 1-A.
21-15- 8 Callahan, C. G. Tibbens 1.
27-15- 8 Grayson, Independent O. & G. and Gens 1.
30-15- 8 Benjamin, Lima O. & G. 4.
29-14- 8 Mitchell, Pure Oil 2.
30-14- 8 McGelbra, Olean Pet. 3.
18-19- 9 Sewell, Roxana Pet. 3.
Smith, Roxana Pet. 2.
34-19- 9 Derrisaw, Smith & Mann 1.
17-18- 9 King, H. U. Bartlett 5.
21-18- 9 Gray, Curtis Oil 1.
23-18-10 Bozey, W. C. Wilson 1.
10-18-11 Unallotted, Wells & Christie 2.
15-18-11 Snow, Redgraves et al 2.
32-18-11 Strip, Drew O. & G. 1.
Crews, Cross et al 1.
5-18-12 Miller, Posey Short 2.
Grayson, C. G. Tibbens 1.
6-18-12 Townlot, Blankenburg et al 1.
Townlot, Farquean et al 1.
8-17- 9 Perryman, Haddock et al 1.
30-17- 9 McIntosh, Amerada Pet. 1.
1-17-10 Wilcox, Margay Oil 2.
Griswell, Carter Oil 1.
8-17-10 Pemberton, Nowata O. & R. and Independent O. & G. 3.
12-17-10 Wilcox, Elson et al 1.
Turner, Thompson, Black et al 2.
Turner, Elson et al 3.
13-17-10 Tiger, Cumberland Oil 4.
Farley, O. M. Irelan 1-A.
Brink, Ted Ray Oil 2, 3.
24-17-10 Dawson, J. H. Wright 10.
Tahkaney, J. H. Wright 19.
29-17-10 Sketer, Wilson & Atlantic 1.
31-17-10 Holder, Future Dev. Co. 1.
32-17-10 Yellowhead, Skelly Oil 1.
3-17-11 S. Fife, S. J. Smith et al 2.
16-17-11 Wilson, Thompson & Black 2.
17-17-11 Black Phillips, Misner et al 11.
22-17-11 Warnarkee, C. O. Buckles 3.
Jackson, Carpenter et al 4.
23-16-10 Thompson, Curtis Oil et al 1.
2-16-11 Jones, Future Dev. Co. 1.
Nevin, Future Dev. Co. 1.
5-16-11 Fulson, Devonian Oil 4.
20-15- 9 Fobes, C. G. Tibbens 2.
29-15- 9 Lane, C. G. Tibbens 1.
Carmen, C. G. Tibbens 2.
31-15- 9 Friday, Mid-Cont. Pet. 2.
7-15-10 Collins, M. P. Evans 1.
23-14-10 Scott, Atlantic O. P. Co. 1.
27-14-10 Morton, J. B. Kissler & Logan 1.
32-14-10 Walker, Empire G. & F. 3.
35-14-10 Ricks, Bessett et al 1.
6-15- 7 Hicks, Prairie O. & G. 1.
30-14- 8 Kernal "A", Prairie O. & G. 3.

Shut Down

14-19- 8 Miller, Devonian Oil 7.
17-18- 7 Starr, Silurian Oil 23.
23-18- 8 Crispin, A. Bailey and Barnsall Oil 1.
30-14- 8 McGelbra, Olean Pet. 4.
2-19- 9 Unallotted, Ed Lee et al 1.
27-18-10 Allen, Vaughn & Wheeler 6.
2-18-11 Land, McLean et al 1-A.
14-18-11 Tiger, O. N. White 1-A.
11-17- 9 Yarhola, Roxana Pet. 1.
13-17-11 McIntosh, Wood Oil 1.
36-15- 9 Allen, Williams & Fell 1.
30-15- 9 Unallotted, C. G. Tibbens 37.
4-14-10 Jones, Mid-Cont. Pet. et al 1.
20-14-10 Elrod, Quinlin & Henry 3.
32-14-10 Walker, Mid-Cont Pet. 8.
Jones, T. B. Slick 6.
33-17-12 Gilcrease, Prairie O. & G. 2.
Rigs, 31; wells drilling, 86; total, 117.

GARFIELD COUNTY

Rigs

24-22-4w Walker (S), Sinclair O. & G. 29.

Wells Drilling

9-24-6w White, Pulse & Beamer 1.
14-24-3w Garsarch, Sagar Oil 1.
29-23-4w Brunken, Roxana Pet. 1.
19-23-3w Wilcox, Amerada Pet. 1.
Wilcox, Sinclair Oil 1.
Whipple, Marland Oil 1.
13-22-4w Walker (N), Sinclair O. & G. 72.
18-22-3w Schroeder, Roxana Pet. 11.
W. Schroeder, Roxana Pet. 13.
2-20-5w Fee, Sinclair O. & G. 1.
9-20-4w Looman, Marland Oil 1.

Shut Down

3-22-5w Swinery, Shabby & Barr 1.
23-22-4w Smith, Reynolds 1.
24-22-4w Walker (S), Sinclair O. & G. 29.
31-21-5w Vanerwork, A. E. Summers 1.
12-21-4w Schriven, Beopple et al 1.
7-20-6w Semrad, O. O. Owens 1.
Rig, 1; wells drilling, 17; total, 18.

GRADY COUNTY

Rigs

1-10-6w ———, J. B. Bailey 1.
14- 5-8w Fryear, Stogner et al 1.
23- 5-8w Edmundson, Skelly Oil 5.
24- 5-8w Pearl Smith, Noble & Westerfelt 1.
7- 5-7w Drake, Nicholos & Page 1.
21- 3-5w Hicks, Amerada Pet. and Gant 6.
3- 4-8w Dryden, Prairie O. & G. 4.
21- 3-5w Russell, Prairie O. & G. 6.
27- 3-5w W. Polson, Carter Oil 3.

Wells Drilling

30- 6-6w Gerad, Commercial Dev. Co. 1.
24- 5-8w Thomas, Magnolia Pet. 1.
25- 5-8w Reed, J. B. Nicholos 3.
34- 5-8w Scott, J. B. Nicholos 1.
35- 5-8w Dryden, Hall & Briscoe 3.
3- 4-8w Gardner, Berry et al 2.
11- 4-8w Rockhold "C", Magnolia Pet. 1.
16- 4-6w Pursley, Garvin Drlg. Co. 1.
5- 3-5w Gardenhire, Amerada Pet. 1.
8- 3-5w Horton, Carter Oil 1.
B. A. Horton, Carter Oil 4.
16- 3-5w Dolen, Carter Oil 2.
Walford, Carter Oil 7, 8.
Kayser, Gypsy Oil 5.
Burke, Marland Oil 3.
17- 3-5w Horton, Carter Oil 2.
20- 3-5w Houge, Gypsy Oil 1.
21- 3-5w Hicks, Amerada Pet. and Gant 4.
T. Ball, Carter Oil 1.
C. Kerans, Carter Oil 2.
M. Kerans, Carter Oil 3.
Spaulding, Carter Oil 2.
Wall, Carter Oil 1.
Russell, Magnolia Pet. 1.
Russell, Prairie O. & G. 3, 4.
22- 3-5w Miller, Magnolia Pet. 1.
25- 3-5w Graham, Magnolia Pet. 1.
27- 3-5w Adair, Carter Oil 2.
Polson, Magnolia Pet. 3.
Cochran, Magnolia Pet. 3.
28- 3-5w Slucher, Carter Oil 1.
Harrison, Magnolia Pet. 6.
C. Kerans, Magnolia Pet. 1.
34- 3-5w Wham, Carter Oil 4, 5, 6, 8.
E. Nation, Carter Oil 2, 3.
E. H. Mitchell, Magnolia Pet. 4.
B. Mitchell, Magnolia Pet. 3.
Wham, Magnolia Pet. 1.
35- 3-5w Cochran, Carter Oil 1.
Scharmack, Carter Oil 3.
6- 3-5w Sledge, Frates et al 1.

Shut Down

13- 9-5w Fulton, Remington 1.
13- 7-5w Kemp, Beckman et al 1.
23- 5-8w Kit Farwell, Meridan Gas 3.
27- 5-8w Glover, Okla. Crude Oil Co. 1.
34- 5-8w Scott, Grogan et al 1.
35- 5-8w Dryden, J. B. Nicholos Oil 1.
35- 4-8w Ridgeway, J. B. Nicholos 1.
16- 3-5w Notholf, Twin State Oil 1.
17- 3-5w Woods, Marland Oil & Joe Ray 2.
27- 3-5w Pounds, Amerada Pet. 1.
34- 3-5w Mitchell, R. R. McBride 1.
Rigs, 9; wells drilling, 58; total, 67.

GRANT COUNTY

Rig

24-27-3w Birdston, Burns & Beasley 1.

Wells Drilling

22-29-3w White, Amerada Pet. 1.
28-27-6w Bradley, Miller Bros. et al 1.
18-27-5w Custard, J. W. Bailey et al 1.
16-26-3w Sherrer, Flannagan & Dedman 1.
22-25-4w Vallner, Cowden 2.

Shut Down

6-28-3w Snyder, Otstot Dev. Co. 1.
23-27-3w Flood, Larutan Fuel Co. 1.
34-26-4w Royce, Brazil & Moses 1.
Rig, 1; wells drilling, 8; total, 9.

HUGHES COUNTY

Rigs

15- 8- 9 McGrit, Burke-Greis Oil 1.
14- 7- 8 Jacobs, W. R. Ramsey 3.

Wells Drilling

1- 9- 9 Cain, Minnehoma Oil 6.
4- 9- 9 Alexander, Berry Pet. 5.
Quintana Intercontinental Oil 7.
22- 9- 9 Deer, Josey Oil 1.
30- 9- 9 Anderson, T. B. Slick 1.
6- 9-10 Hully, Amerada Pet. 2.
11- 8- 9 Long, Carter Oil 1.
Long, Mid-Cont. Pet. 1.
15- 8- 9 Washington, Phillips Pet. 1.
9- 8-10 Riley, S. J. McGee et al 1.
17- 8-10 Irving, Phillips Pet. 1.
19- 8-10 Alexander, Carter Oil 5.

Shut Down

35- 9- 9 Powell, Roxana Pet. 2.
3- 8- 9 Harjo, Champlin & Bass 1.
14- 8- 9 Long, Independent O. & G. 2.
18- 8-10 Diamond "B", Dixie Oil 1.
Diamond "A", Dixie Oil 2.
Diamond "C", Dixie Oil 3.
27- 7- 8 Harjo, Magnolia Pet. 1.
Rigs, 2; wells drilling, 19; total, 21.

KAY COUNTY

Rigs

30-28-1e Lane, Greer et al 1.
31-27-1e Denton, Blackwell O. & G. 1.
31-25-1w Poole, Midco Oil Corp. 1.
10-25-1e Anderson, Miller Bros. 1.

Wells Drilling

20-29-1w Day, The Texas Company 5.
21-29-1w Buell, Comar Oil 1-A.
Duncan, Comar Oil 1-W. 15.
Priboth, Comar Oil 8-W.
4-28-1w Dowd, Comar Oil 1.
McCullough, Comar Oil 6-W.
8-28-1w Andrews, Wentz Oil Corp. 1-G.
20-28-1w Scott, Comar Oil 1.
29-28-1w Gingerich, A. D. Morton et al 1.
6-28-1e Woofe, McComas et al 1.
18-28-1e Nix, Blackwell O. & G. 11.
28-28- 2 Huddleston, John Stark et al 1.
8-27-1w Jameson, Harris & Hahn 1.
9-27-1w Brown, Harris & Hahn 1.
17-27-1w Payne, Marileen & Phillips Pet 1.
19-27-1w Jennings, Comar Oil 1.
Gaylor, Marland Oil 1.
31-27-1w Love, McCullough et al 1.
31-27-2e Harris, Wentz Oil Corp. 2.
1-26-2w Fitzgerald, Marland Oil 1-B, 2-B, 3-A.
Hockstetter, Marland Oil 3-B.
Higgins, Marland Oil 1.
Smith "A", Prairie O. & G. 10.
12-26-2w North (No. 1), Marland Oil 11.
26-26-2w Williams, Palmer et al 1.
6-26-1w Glasgow, Barnsdall Oil 1.
Glasgow, National Union Oil and Marland Oil 2.
North (No. 2), Marland Oil 4.
7-26-1w Kaney, Marland Oil 1.
9-25-2w Chambers, Marland Oil 1.
15-25-1w McDaniels, Tonkawa Dev. Co. 1.
30-25-1w Sutton, Carter Oil 1.
4-25-2e Fourse, Marland Oil 1-A.
34-25-2e Sandsyellow, Boucher et al 1.
3-28- 4 C. C. Stallings et al 1.

Shut Down

21-29-1w Priboth, Comar Oil 2.
30-29-1e Hennessey, National Union Oil 3.
4-28-1w McCullough, Comar Oil 5.
3-27-1w Moore, Arkansas Fuel Oil Co. 2.
4-27-1w Moore, Harold Pet. 1.
12-26-2w North, Marland Oil 4.
21-26-1e Keathley, A. D. Morton et al 1.
32-26-2e McNeal, Ponca Lee Oil Co. 1.
Rigs, 4; wells drilling, 46; total, 50.

LINCOLN COUNTY

Wells Drilling

20-17- 3 Gunn, Willis O. & G. 1.
21-17- 4 Hayes, W. Sherry & C. J. Wrightsman 1.
31-17- 4 Scott, Roxana Pet. 1.
33-17- 4 Ward, Empire G. & F. 1.
30-17- 5 West, Carter Oil 1.
31-17- 5 Bett, T. P. C. & O. Co. 1.
Cook, Shaffer O. & R. 1.
6-16- 5 Lindsey, I. T. I. Oil 1.
11-16- 5 Hemmer, Morgan & Flynn 1.
36-16- 5 School land, Magnolia Pet. 1.
14-15- 5 Clark, Magnolia Pet. 1.
16-15- 5 Camden, Wilcox O. & G. 1.
20-15- 6 Pickerel, Madden & Madden 1.
7-14- 4 Telford, Magnolia Pet. 1.
Norton, T. B. Slick 2.
8-14- 4 Staubus, Magnolia Pet. 1.
10-13- 6 Bledsoe, Wilcox O. & G. 1.

Shut Down

16-13- 4 School land, Bu-Vi-Bar Pet. 1.
Wells drilling, 18; total, 18.

LOGAN COUNTY

Wells Drilling

33-19-4w ———, Bryan & Emery 1.
32-19-3w Rogers, Carter Oil 1.
30-19-4w McCullough, Roxana Pet. 1.
27-18-4w Jewell, T. P. C. & O. Co. 1.
33-18-4w Speaks, T. P. C. & O. Co. 1.
33-18-3w Quier, Haley and Pioneer Pet. 1.
20-17-1e Signs, T. B. Slick 1.
28-17-1e Berry, T. B. Slick 1.
12-15-1w Kirkpatrick, Bu-Vi-Bar Pet. 1.

Shut Down

9-18-4w Lovell, Brown & Blevens 1.
28-16-1w Lair, Blackford O. & G. 1.
Wells drilling, 11; total, 11.

MUSKOGEE AND WAGONER COUNTIES

Rigs

13-17-16 Atkins, Knox & Schouse 1.
1-17-17 Morris, W. J. Metzger 3.
14-16-16 Lunnon, M. E. Johnson 3.
17-15-17 Lewis, Jolly-Ogg Oil 2.
23-15-17 Walker, Hale Ford 1.

Wells Drilling

32-18-16 Woodward, P. Boyle 1.
28-17-16 Charles, O. A. Sewell 1.
32-17-17 Samuels, Price & Williams 1.
29-16-16 Roberts, C. Brown et al 1.
25-15-15 Pouncil, Harry Smith 5.
32-15-15 Austin, Link Oil et al 1.
16-15-17 Taylor, Denton & Marshall 1.
17-15-17 Warner, J. L. Selby 2.
Sango, H. E. Williams et al 1.
20-15-17 Ponds, J. M. Foltz 1.
5-14-19 Goodrich, C. M. Bradley 5.
18-13-19 Weaver, Howard 1.

Shut Down

9-18-16 Barnett, F. E. Webb et al 4.
8-18-18 Brown, F. E. Webb & Allison 1.
29-16-16 Bruner, M. S. Musselem 4.
30-15-15 Grayson, Vise & Heflin 3.
8-15-17 Rector, C. M. Whaley et al 1.
14-15-17 Bruner, E. H. Neal et al 1.
12-15-18 Jobe, C. F. Finefield 1.
34-14-17 Smith, J. L. Slucher 1.
11-14-18 Scott, W. H. Trapp et al 1.
Rigs, 5; wells drilling, 21; total, 26.

OKFUSKEE COUNTY

Rigs

34-12- 8 Knight, Transcontinental Oil 1.
21-13- 9 Self, Barnsdall Oil 1.
28-12-10 Johnson, Sands Pet. 1.
2-12-11 Sullivan, J. J. Deaner 1.
33-12-11 McCoy, Josey Oil 20, 21, 13, 16.
35-11- 9 Wind, Gilcrease Oil 2.
14-11-10 Brooks, Terrian et al 1.
33-11-11 Barnett, Riverland Oil 1.
23-11-11 Unallotted, Carter Oil et al 2.
21-10- 9 Simon, Mid-Cont. Pet. 1.
31-10-12 Fields, L. W. Umburn 2.

Wells Drilling

7-13- 7 Wilson, Roxana Pet. 1.
13-12- 6 Strip, Mid-Cont. Pet. 1.
12-12-11 Harjo, J. M. Kissler 1.
22-12-11 Holmes, Hartman et al 1.
28-12-11 Stubblefield, Josey Oil 1.
33-12-11 McCoy, Josey Oil 12, 18, 19.
Field, Josey Oil 3.
35-11- 9 Berryhill, E. L. Robinson 1-A.
15-11-11 Jacobs, Champlin O. & R. 3.
19-11-11 Barnett, Riverland Oil 1.
Barnett, Riverland Oil 1.
22-11-11 Holmes, Champlin O. & R. 6.
23-11-11 Unallotted, Carter Oil et al 3.
30-11-11 Holmes, Riverland Oil 1.
31-11-11 Grayson, Riverland Oil 1.
4-10- 9 Tiger, Gibson & Zahniser 1.
16-10- 9 Bruner, Kingwood Oil 1.
5-10-10 Davis, Rogers & Wilson 1.
29-10-10 Hully, Link and Carter Oil 1.
31-10-10 Cain, Amerada Pet. 1.

Shut Down

8-12-10 Yarhola, Blakely et al 1.
33-12-11 Fields, Josey Oil 2.
4-11-10 Stidham, Moose & Daniels 1.
23-11-11 Grayson, A. D. Morton 1.
11-10-11 Hill, Lou Umburn 1.
Rigs, 14; wells drilling, 27; total, 41.

OKMULGEE COUNTY

Rigs

19-16-14 Grayson, Savoy Oil 3.
34-16-14 Bruner, Harsha & Delany 2.
18-15-12 Bright, Empire G. & F. 1.
26-15-12 Lee, Hammon et al 3.
19-14-11 Bug, White Eagle et al 1.
15-13-13 Skelton, Skelton Oil 2.
4-11-12 Hawkins, Weir 3.
7-11-12 Holmes, Moffett et al 5.
32-11-12 Ashbury, Colorado O. & G. 2.
16-15-14 McKinney, F. Hyer 1-A.
9-14-15 Sells, J. L. Powell 5.
33-13-13 Fields, Hazlett et al 2.
17-12-13 Burgess, W. B. Pine 2.
13-11-13 Kanard, Morgan 8.

Wells Drilling

9-16-12 Simapope, Turner and Riverland Oil 1.
27-15-12 Thornburg, Jordan & Thompson 1.
29-15-12 Kelly, Strozier and Shaffer O. & R. 1.
4-14-11 Lungford, Sidwell Drlg. Co. 3.
3-13-11 Anderson, R. V. Vincent et al 2.
35-13-11 Gill, Lakeside O. & G. 2.
7-11-12 Strip, French & Garrett 1.
17-15-13 Louiney, A. J. Kirkland & Son 4.
23-14-14 Thomas, J. L. Powell 3.
27-14-14 Flint, J. C. Lampert 4.
15-13-14 Doyle, Simms Oil 20.
25-13-11 Lewis, Prairie O. & G. 2.

Shut Down

20-16-12 Fee, Crider 1.
20-16-14 Mayfield, X. K. Stout 5.
21-16-14 Rowe, Atlas Oil 3.
25-14-11 Huckaby, Tiger Mtn. Oil 12.
10-15-14 Carter, J. W. Roberts 2.
12-14-14 Drew, Phillips Boyle et al 1.
18-14-15 Rentie, F. Boone 4.
Rentie, Gallagher 3.
27-14-15 Smith, Apex Pet. 1.
11-13-13 Gaither, Carey Jennings 4.
Rigs, 14; wells drilling, 22; total, 36.

OSAGE COUNTY

Rigs

7-27- 6 Phillips Pet. 2.
33-27- 6 Carter Oil Co. 4.
34-27- 6 Kewanee O. & G. 6, 7.
20-27- 7 Galt, Brown Oil 1.
3-26- 6 Kewanee O. & G. 1.
20-26- 6 Phillips Pet. 8.
21-25- 6 Sinclair O. & G. 3.
7-24- 8 Galt Brown Oil 1.
23-22-10 Elm Oil 15.

Wells Drilling

16-28- 8 J. J. Fitzstevens 1.
15-28-10 Winona Oil 1.
1-27- 5 Phillips Pet. 5.
17-27- 6 Phillips Pet. 4, 7.
20-27- 6 Phillips Pet. 8.
27-27- 6 Skelly Oil 1, 2, 3, 4, 5, 6, 7.
The Texas Company 1.

17-27- 6 Prairie O. & G. 2.
12-26- 4 Skelly Oil 1.
28-26- 6 The Texas Company 1.
Geo. Parker 1, 2, 3, 4.
19-26- 6 Phillips Pet. 8.
29-26- 7 C. J. Wrightsman 1.
25-26- 8 Petroleum Drlg. Co. 21.
34-26- 9 Pawhuska Oil Co. 48.
23-26-10 Phillips Pet. 1.
19-25- 6 Barnsdall Oil 1.
19-25- 8 A. G. Oliphant 6.
26-25- 8 The Texas Company 1, 2, 3, 4.
30-25- 8 The Texas Company 1, 2, 3, 4.
Prairie O. & G. 1, 2.
27-25- 9 Marland Oil 1.
18-24- 6 Mid-Kansas Oil 1.
26-24- 6 Devonian Oil 1.
18-24- 8 C. B. Peters 1.
20-24- 9 Tidal-Osage Oil 3.
1-25- 8 Tidal-Osage Oil 1.
20-23-10 Superior Oil 4.
28-22-12 W. J. Knupp 1-A.
19-21- 9 Phillips Pet. 7.
27-21-10 Okla. Natl. Gas Co. 767.
17-21-11 Winona Oil 1.
9-21-12 J. G. Stone 7.
22-20-11 Sand Springs Home 1.

Shut Down

34-27- 6 Kewanee O. & G. 6, 7, 5, 4, 5, 6.
34-25- 9 Marland Oil 2.
17-24- 9 Dunnagan et al 4.
17-23-10 Gypsy Oil 1.
20-23-10 Superior Oil 3.
5-22-10 Sam Sitron 1.
11-24- 6 Prairie O. & G. 1.
19-23- 7 Prairie O. & G. 1.
10-24-12 Prairie O. & G. 42.
Rigs, 10; wells drilling, 65; total, 75.

PAYNE COUNTY

Rigs

9-18- 5 Harris, Shaffer O. & R. 1.

Wells Drilling

10-19-1w Lemons, Marland Oil et al 1.
30-18-5e Montgomery, Gardner Pet. 1.
13-19- 4 Stover, Roxana Pet. 1.
9-19- 5 Walker "A", Magnolia Pet. 3.
5-19- 6 Ogradsby, Magnolia Pet. 1-A.
23-18-1e Hilber, Twin State Oil 1.
7-18- 4 Knots, Payne County P. L. Co. 1.
Ramsey, Pure Oil 1.
26-18- 4 Broyles, New Eng. O. & P. L. 5.
4-18- 5 Little Chief, Shaffer O. & R. 1.
36-18- 5 School land, Transcontinental Oil Co. 1.

Shut Down

33-18-3e Widows, Garber, Pulse & Gloyd 1.
7-18- 5 Blue, Marland Oil 4.
Rigs, 1; wells drilling, 13; total, 14.

PAWNEE COUNTY

Rigs

9-22- 6 Moore, Garber & Pulse 1.
9-20- 7 Rule, Noble O. & G. 3.
20-20- 9 Weeks, J. A. Turner 1.

Wells Drilling

13-20- 9 Jamison, Industrial O. & G. 1.
19-20- 9 Greenwood, Pax Oil 1.
9-22- 3 Arkaketa, Watchorn O. & G. 1.
10-22- 3 Tucker, Magnolia Pet. 1.
10-22- 4 Wineare, Magnolia Pet. 1.
16-21- 6 School land, 101 Ranch Oil 1.
25-21- 6 Henry, Bryan & Emery 1.
28-21- 6 Curtis, Privett Drlg. Co. 1.
5-21- 7 Beams, Arkansas Fuel Oil 1.
18-21- 8 ———, C. H. Burton 1.
36-20- 4 School land, I. T. I. Oil 1.
32-20- 5 Makin, Continental Oil 2.
33-20- 5 Pollock, Gypsy Oil 5.
3-20- 6 Hammer, Blackwell O. & G. 2.
10-20- 6 Cave, Geo. Baker 1.
15-20- 6 Vickers, Manola Pet. 2.
22-20- 6 Smith, Westerly Oil 3.
32-20- 6 Vogler, Magnolia Pet. 5.
9-20- 7 Rule, Superior Oil 2.
6-20- 8 George, Producers and Consolidated Oil 11.

Shut Down

22-22- 7 Colbaugh, Victor Oil 1.
9-20- 6 Duff, Magnolia Pet. 1.
Redding, Magnolia Pet. 1.
Rigs, 3; wells drilling, 23; total, 26.

PONTOTOC AND GARVIN COUNTIES

Rigs

28- 5- 5 Copeland, LaSalle et al 2.
17- 5- 8 Harjo, Homaokla Oil 1.
10- 4- 8 Strickland, Garland Oil 1.
4- 3- 7 Lloyd, Ada Dev. Co. 7.

Wells Drilling

12- 5- 4 Flemming, Gillispie et al 1.
31- 5- 5 Fee, LaSalle et al 1.
13- 5- 5 Bennett, Shaw et al 1.
21- 5- 6 Graham, T. B. Slick 1.
14- 5- 6 Phillips, American O. & R. 1.
35- 5- 6 Logsdon, American O. & R. 1.
15- 5- 8 Gilmore, Snowden & McSweeney 1.
16- 5- 8 S. Gilmer, Homaokla Oil 1.
Milner, Homaokla Oil 1.
20- 5- 8 Harjo, W. R. Ramsey 1.
Glicrease, Louisiana O. & R. 1.
9- 4- 5 Craig, W. R. Ramsey 1.
10- 4- 6 LaSalle, Dixie Oil 1.
14- 4- 7 Johnson, Henry et al 1.
12- 3-1e Vaughn, Magnolia Pet. 1.
7- 3- 7 Walton, Ada Dev. Co. 1.
12- 1-1e Russell, Day Oil 1.
12- 1-3w Wyatt, Magnolia Pet. 8.
14- 1-3w Newberry, Magnolia Pet. 4.
17- 1-3w Derdeyn, Pope & Wilson 2.
Derdeyn, The Texas Company 14.
31- 1-3w Banks, The Texas Company 1.
L. Tussey, Magnolia Pet. 1.

Shut Down

29- 5- 5 Lewis, Bowles et al 1.
25- 5- 6 Patterson, Gillette & Krueger 1.
28- 5- 6 Stringer, American O. & R. 1.
34- 5- 6 Wray, American O. & R. 1.
35- 4- 6 Rayborn, Bowles et al 1.
28- 3- 4 Lloyd, C. F. Smith 1.
Rigs, 4; wells drilling, 29; total, 33.

POTTAWATOMIE COUNTY

Rigs

4- 9- 5 Holey, Barnsdall Oil 1, 2.
Cowden, Magnolia Pet. 1, 2.
5- 9- 5 Fowler, Independent O. & G. 1.
Roger, The Texas Company 2.
8- 9- 5 Knapp, Independent O. & G. and Darby Pet. 4, 5.
Dobbs, Philmack and Marland 3.
9- 9- 5 Gibson, Barnsdall Oil 4, 7, 8.
Bryant, Magnolia Pet. 3.
McKinley, Mid-Cont. Pet. 5.
Gram, Phillips Pet. 7, 8.
Watkins, Tidal Oil 5, 6.
24- 7- 3 Killing, Shaffer O. & R. 1.
13- 7- 4 Cherry, Magnolia Pet. 1.
Green, Magnolia Pet. 1.
15- 7- 4 Lewis, Magnolia Pet. 1.
17- 7- 5 Keiner, Magnolia Pet. 1.
19- 7- 5 Hembree, Magnolia Pet. 1.
25- 7- 3 Bledsoe, Prairie O. & G. 1.

Wells Drilling

32-11-2e Hollis, Wilcox O. & G. 1.
32-11-2e Pickard, Wilcox O. & G. 1.
26-11- 4 Kline, Sikes, Kilgore and Shaffer O. & R. 1.
16-10- 5 School land, Clark Edwards et al 1.
4- 9- 5 Cowden, Amerada Pet. 2, 4, 5.
Doebling, Gypsy Oil 1.
Odell, Independent O. & G. and Darby Pet. 1, 2, 3, 4.
5- 9- 5 Roger, The Texas Company 1.
8- 9- 5 Knapp, Independent O. & G. and Darby Pet. 2, 3.
Dobbs, Philmack Oil and Marland Oil 1.
9- 9- 5 Gibson, Barnsdall Oil 1, 2, 3, 5.
Bryant, J. E. Crosbie 2.
Bryant, Magnolia Pet. 1, 2, 4.
McKinley, Mid-Cont. Pet. 3, 4.
Gram, Phillips Pet. 2, 4, 5, 6.
Watkins, Tidal Oil 1, 2, 3, 4.
16- 9- 5 Boro, Gypsy Oil 1.
Earl, Gypsy Oil 4.
School land, Gypsy Oil 2, 5.
Day, Pure Oil 1.
18- 9- 5 Foreman, Sinclair Oil 1.
21- 9- 5 Day, Independent O. & G. and Devonian Oil 1.
32- 9- 5 Harbor, Independent O. & G. 1.
24- 8- 4 Leah, Amerada Pet. 1.
34- 8- 4 Brandenbury, Mid-Kansas Oil 1.
22- 7- 3 Rickers, Roxana Pet. 1.
25- 7- 3 Saunders, Pierce Oil 1.
Bledsoe, Prairie O. & G. 2.
36- 7- 3 School land, Magnolia Pet. 1.
11- 7- 4 Billington, Magnolia Pet. 1.
Clour, Magnolia Pet. 1.
Nona, Magnolia Pet. 1.
14- 7- 4 Simpkins, Independent O. & G. and Darby Pet. 1.
Standridge, Independent O. & G. and Darby Pet. 1.
Banta, Magnolia Pet. 1.
15- 7- 4 Piller, Independent O. & G. and Darby 1.
19- 7- 4 Doyle, Continental Oil 1.
Doyle, Mid-Cont. Pet. 1, 2, 5, 6, 8.
Phillips, Shaffer O. & R. 1, 2.
Spangy, Twin State Oil 1, 2.
22- 7- 4 Billington, Magnolia Pet. 1.
24- 7- 4 McKay, Westheimer & Daube 1.
30- 7- 4 Davis, Magnolia Pet. 1.
Ward, Pierce Oil 1.
Bickford, Pierce Oil 1.
Doyle, Pure Oil 1, 2, 4.
Davis, C. J. Wrightsman 2.
2- 7- 5 Lawson, Amerada Pet. 1.
7- 7- 5 Bowers, Sinclair O. & G. 1.
19- 7- 5 Harper, Magnolia Pet. 1.
33- 7- 5 Coleman, Roxana Pet. 1.

Shut Down

12-10- 3 Ives, Sikes, Kilgore and Shaffer O. & R. 1.
28-10- 4 Tony, Central National Oil 1.
9- 9- 5 McFarland, Gypsy Oil 3.
16- 9- 5 Earl, Gypsy Oil 2.
Day, Pure Oil 2.
17- 9- 5 Stebbins, Pure Oil 1.
16- 8- 5 School land, I. T. I. Oil 1.
10- 6-2e McCahey, Davis & Detrick et al 1.
Rigs, 25; wells drilling, 86; total, 111.

SEMINOLE COUNTY

Rigs

33-11- 8 Thompson, Pure Oil 1-A.
3- 9- 5 R. Cudjo, Barnsdall Oil 1.
Edmondson, Magnolia Pet. 1, 2.
10- 9- 5 Peters, Barnsdall Oil 4.
Peters, Gypsy Oil 4, 5.
Brown, The Texas Company 3.
11- 9- 5 Gaines, Independent and Margay Oil 1.
12- 9- 5 Spencer, Roxana Pet. 2.
14- 9- 5 Anderson, Mid-Kansas Oil 2.
15- 9- 5 D. Smith, Barnsdall Oil 3.
Sebolka, Barnsdall Oil 2.
24- 9- 5 Harjo, Gypsy Oil 1.
Stidham, Gypsy Oil 1.
25- 9- 5 Harris, Empire G. & F. 1.
4- 9- 6 Cluck, Wilcox O. & G. 3, 5.
15- 9- 6 Grisso, Carter Oil 1.
34- 9- 6 Founder, Carter Oil 2.
18- 9- 7 Drewery, McCullough Oil 1.
7- 9- 8 McDaniels, Independent O. & G. 3.
1- 8- 6 Tiger, T. B. Slick and Mid-Cont. Pet. 1.
2- 8- 6 Strothers, The Texas Company 4.
3- 8- 6 Jacksey, Sinclair O. & G. 1.
8- 8- 6 Micco, Carter Oil 1.
10- 8- 6 Strothers "F", Pure Oil 1.
Harjoche, Tidal Oil 2.
11- 8- 6 Strothers "D", Pure Oil 4, 5.
Jones, Twin State Oil 1.
13- 8- 6 Grayson, Atlantic O. P. Co. 2.
Grayson, Gypsy Oil 1.
Davis, Magnolia Pet. 1.
14- 8- 6 Strothers "D", Pure Oil 3.
Reed, The Texas Company 5, 6, 7, 8, 9.
16- 8- 6 Fox, T. B. Slick 2.
22- 8- 6 Bowlegs, I. T. I. Oil 8.
Bowlegs, McCullough Oil 3.
Walker, Sinclair O. & G. 3, 4.
23- 8- 6 Fleet, Atlantic O. P. Co. 4.
Wise, Carter Oil 6, 7, 8, 9.
Wise, Gypsy Oil 2.
Wise, Midland Oil 2.
24- 8- 6 Work, Mid-Cont. Pet. 2, 3.
26- 8- 6 Hull, I. T. I. Oil 2.
32- 8- 6 Eunawse, Gypsy Oil 1.
11- 9- 5 Stidham, Prairie O. & G. 4, 5.
23- 8- 6 Gahagan, Prairie O. & G. 3, 4.
10- 9- 5 O. Graham, Prairie O. & G. 1, 2.
24- 9- 5 Baker, Prairie O. & G. 2.
3- 9- 5 C. Graham, Prairie O. & G. 1.
31- 8- 7 Harber, Prairie O. & G. 1.
31- 8- 8 Casey, Carter Oil 10.
32- 8- 8 R. Jones, Magnolia Pet. 7.
5- 7- 6 Walker, Twin State Oil 1.
7- 7- 6 Palmer, Simon & Beam 1.
1- 6- 6 Harjo, T. B. Slick 1.
23- 8- 6 Whitney, Prairie O. & G. 4.

Wells Drilling

33-11- 8 Williams, Barnsdall Oil and Mid-Cont. Pet. 10.
Pierce, Continental Oil 1, 12, 13.
Thompson, McMann Oil 1, 2.
Pierce, Sinclair O. & G. 13.
14-10- 5 Jarvis, McCullough Oil 1.
26-10- 5 Turner, Sorry & Swarts 1.
33-10- 6 Davis, Mid-Cont. Pet. 2.
34-10- 6 Grayson, Mid-Cont. Pet. 4.
12-10- 7 H. Micco, Gypsy Oil and Prairie O. & G. 1.
28-10- 7 Blevins, Continental Oil 1.
34-10- 7 Tiger, Gypsy Oil 1.
4-10- 8 Yarbough, Sinclair O. & G. 5.
Jackson, The Texas Company 5-A.
15-10- 8 Bruner, Wilcox O. & G. 9.
1- 9- 5 Sango, Barnsdall Oil 2, 3.
1- 9- 5 Sango, Carter Oil 1.
Sango, Gypsy Oil 1, 2.
Sango, Philmack Oil 1.
Sango, Red Bank Oil 1.
Sango, Searight 1.
2- 9- 5 Bruner, Barnsdall Oil 1.
Bruner, Continental Oil and Darby Pet 1.
Hearn, Twin State Oil 1.
3- 9- 5 Walker, Barnsdall Oil 1.
Edmondson, Empire G. & F. 1.
10- 9- 5 S. Pack, Barnsdall Oil 2, 3, 4.
Peters, Barnsdall Oil 1, 2, 3.
Peters, Gypsy Oil 1, 3.
Bruner, Independent O. & G. 3.
Simpson, Magnolia Pet. 3, 4.
Brown, The Texas Company 2.
Wilmont, The Texas Company 3.
11- 9- 5 Cudjo, Barnsdall Oil 2, 3.
D. Davis, Barnsdall Oil 1, 2, 3.
M. Davis, Barnsdall Oil 2, 3.
B. Carter, Gypsy Oil 2, 3.
Holmsley, Magnolia Pet. 2, 3, 4, 5, 6.
Sparks, Magnolia Pet. 4, 5, 6.
12- 9- 5 Wasutke, Barnsdall Oil 1, 2.
Payne, Carter Oil 1, 2.
Hollins, Continental Oil 1, 2.
M. Noble, Gypsy Oil 1.
Payne, Interocean Oil 1.
Dixon, Magnolia Pet. 1, 2.
Seay, Magnolia Pet. 1, 3, 4, 5.
Spencer, Roxana Pet. 1.
Spencer, Skelly Oil 1, 2.
Barker, Twin State Oil 1.
13- 9- 5 Wisner, Gypsy Oil 1.
Young, Roxana Pet. 1.
14- 9- 5 Winton, Barnsdall Oil 1.
Anderson, Mid-Kansas Oil 1.
Dunaway, Phillips Pet. 1.
15- 9- 5 Anderson, Amerada Pet. 1-A. 5, 7, 8.
Talsey, Barnsdall Oil 2.
D. Smith, Gypsy Oil 1, 2.
Anderson, Roxana Pet. 1.
Jones, Sinclair O. & G. 1.
2- 9- 6 Kiker, Carter Oil 1.
3- 9- 6 Frazier, Carter Oil 3, 5, 6.
Aldridge, Pure Oil 2.
Polly, Sinclair O. & G. 2.
4- 9- 6 Davis, Carter Oil 5.
Cudjo, Gypsy Oil 2.
Cluck, Wilcox O. & G. 2, 4, 6.
10- 9- 6 Noble, Superior Oil 1.
13- 9- 6 Marcy, I. T. I. Oil 1.
14- 9- 6 Henry, Barnsdall Oil 1, 2.
F. Killing, Carter Oil 6.
22- 9- 6 Harjo, Kingwood Oil and Roxana Pet. 5, 6.
Lasley, Roxana Pet. 1.
Grisso, Sinclair O. & G. 1.
23- 9- 6 Grisso, Carter Oil 8.
M. Killing, Carter Oil 4, 10, 11, 12.
Fixico, Independent O. & G. 3.
Fixico, Transcontinental Oil and Sinclair Oil 3.
24- 9- 6 James, I. T. I. Oil 7-A.
25- 9- 6 Gross, Empire G. & F. 1, 2.
D. Harjo, Gypsy Oil 2, 3.
Harjo, Independent O. & G. 1, 2, 3.
Franks, Magnolia Pet. 3, 4.
Harjo, Tidal Oil 1.
26- 9- 6 Wolfe, Gypsy Oil 6, 7.
Bowlegs, I. T. I. Oil 6, 9.
Strothers, Pure Oil 15.
Fixico, Tidal Oil 8.
27- 9- 6 Gilliland, Carter Oil 2.
Jackson, Carter Oil 1.
Lukes, Carter Oil 4, 5, 6, 7, 8.
Strothers, Independent and Atlantic 1.
27- 9- 6 Strothers, Phillips Pet. 2, 3, 4, 5.
31- 9- 6 Cudjo, Barnsdall Oil 1.
34- 9- 6 Jones, Barnsdall Oil 3.
Cramer, Carter Oil 1, 2, 3.
W. Cudjo, Carter Oil 2.
Founder, Carter Oil 1.
Strothers, Carter Oil 3, 4.
Wilson, Empire G. & F. 3, 4.
T. Cudjo, Gypsy Oil 1, 2, 3, 4, 5, 6.
Strothers, Pure Oil 1.
Cudjo, Carter Oil 4.
35- 9- 6 Simpson, Carter Oil 3.
Butler, Gypsy Oil 4.
Butler, McCullough Oil 2, 3, 4.
Cudjo "A", Sinclair O. & G. 6.
Cudjo "B", Sinclair O. & G. 3.
Born, T. B. Slick 2.
R. Cudjo, T. B. Slick 3.
Franks, T. B. Slick 6, 8.
Giblet, T. B. Slick 2, 3, 4.
36- 9- 6 Strothers "B", Pure Oil 2, 3, 4, 5.
8- 9- 7 N. Theloco, Sinclair Oil and Phillips Pet. 1.
10- 9- 7 Graull, Barnsdall Oil 1.
11- 9- 7 Anna, Jarvis & Holmes 1.
15- 9- 7 Jonah, Pure Oil 1.
17- 9- 7 Warrior, Sinclair Oil and Phillips Pet. 1.
20- 9- 7 Pepper, Magnolia Pet. 1.
21- 9- 7 Island, Gypsy Oil 1.
23- 9- 7 Stepney, Gypsy Oil 1.
28- 9- 7 Markwell, Magnolia Pet. 1.
29- 9- 7 Johnson, Barnsdall Oil 1.
31- 9- 7 Mills, I. T. I. Oil 1.
7- 9- 8 Alexander, Independent O. & G. 2.
W. Jefferson, Independent O. & G. 2.
Lowery, Jarvis & Holmes 1.
Butler, The Texas Company 1.
Seran, T. Atkins 1.
10- 9- 8 Drake, Plover Drlg. Co. 1.
16- 9- 8 Babb, Mid-Kansas Oil 1.
18- 9- 8 Island, Oklavania Oil and Carter Oil 2.
2- 8- 6 Cheparney, Magnolia Pet. 1.
Strothers, The Texas Company 1, 2, 3.
3- 8- 6 Cully, Mid-Cont. Pet. 1.
Jacksey, Mid-Kansas Oil 1.
Presley, Mid-Kansas Oil 2.
Chupco, Phillips Pet. 1.
4- 8- 6 Dosey, Gypsy Oil 1.
5- 8- 6 Seminole, Gypsy Oil 1.
10- 8- 6 Taylor, Atlantic O. P. Co., 1, 2, 3, 4.
Cumsey, Gypsy Oil 1, 2.
Taylor, Mid-Cont. Pet. 1, 3, 4.
Taylor, Sinclair O. & G. 1, 2.
Harjoche, Tidal Oil 1.
11- 8- 6 Murrow, Barnsdall Oil 1, 2.
Jones, Sinclair Oil 1.
13- 8- 6 R. Grayson, Atlantic O. P. Co. 1.
Davis, I. T. I. Oil 3, 4, 5.
Fay, I. T. I. Oil 1, 2, 3.
14- 8- 6 Harjoche, Carter Oil 1, 2, 3, 4, 5, 6, 7.
Lacey, Empire G. & F. 2, 3, 4, 5, 6, 7, 8.
Reed, Pure Oil 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.
Strothers "D", Pure Oil 1, 2.
Lacey, Shaffer O. & R. 1, 2, 3, 4.
Harjoche, Sinclair O. & G. 4.
Reed, The Texas Company 1, 2, 3, 4.
15- 8- 6 Rascoe, Amerada Pet. 2.
Bowlegs, Carter Oil 3, 4.
Walker, Carter Oil 2, 3, 4.
Walker, Gypsy Oil 3, 4, 6, 8, 9.
Livingston, I. T. I. Oil 3, 4, 5, 6, 7, 9, 10, 11, 12.
Goforth, I. T. I. Oil 1-A, 2-A, 6, 7, 8, 9, 10, 11, 12.
Walker, I. T. I. Oil 4, 5, 6, 7, 8.
Wilmouth, I. T. I. Oil 1, 2, 3, 4.
Bowlegs, Minnehoma Oil 1, 2, 3, 4.
16- 8- 6 Jones, Atlantic O. P. Co. 1, 3, 4, 5, 6, 7.
16- 8- 6 Jones, Marland Oil 1.
Strothers "E", Pure Oil 1.
Taylor, Roxana Pet. 1, 2, 3, 4, 5
Fox, T. B. Slick 1.
17- 8- 6 Strothers, Magnolia Pet. 1.
20- 8- 6 Rogers, Empire G. & F. 1.
21- 8- 6 McCelsey, Carter Oil 1, 2.
Coker, Independent and Marland Oil 1.
22- 8- 6 Bowlegs, Gypsy Oil 1.
Billington, I. T. I. Oil 1, 2, 3.
Bowlegs, I. T. I. Oil 1, 2, 3, 4, 5, 6, 7.
Bowlegs, Mid-Cont. Pet. 1.
Bowlegs, McCullough Oil 1, 2.
Walker, Sinclair O. & G. 2.
23- 8- 6 Fleet, Atlantic O. P. Co. 1, 2, 3.
Wise, Carter Oil 3, 5.
27- 9- 6 Strother, Prairie O. & G. 7, 8.
21- 8- 6 Harbison, Prairie O. & G. 1.
33-10- 6 Cannon, Prairie O. & G. 1.
11- 9- 5 Stidham, Prairie O. & G. 1, 2, 3.
32-10- 6 Dare, Prairie O. & G. 1.
30-10- 6 Cash, Prairie O. & G. 1.
23- 8- 6 Gahagan, Prairie O. & G. 2.
10- 8- 6 Harber, Prairie O. & G. 2, 4, 5.
22-10- 6 Weimer "A", Prairie O. & G. 1
36- 9- 6 Mason, Prairie O. & G. 1.
23- 8- 6 Whitney, Prairie O. & G. 1, 2, 3.
34- 8- 6 Aldridge "A", Prairie O. & G. 1.
17-10- 6 Burner, Prairie O. & G. 1.
2- 8- 6 O. Thomas, Prairie O. & G. 1.
Yahola, Prairie O. & G. 1.
13- 9- 6 Davis, Prairie O. & G. 1, 2, 3.
22- 8- 6 Bowlegs, Prairie O. & G. 1.
12- 8- 6 Templeton, Prairie O. & G. 1.
23- 8- 6 Wise, Gypsy Oil 1.
Wise, Midland Oil 1.
24- 8- 6 Barnett, I. T. I. Oil 1, 2.
Work, I. T. I. Oil 1.
Youngblood, I. T. I. Oil 1, 4.
Work, Mid-Cont. Pet. 1.
28- 8- 6 McNac, Barnsdall Oil 1.
33- 8- 6 Brown, Gypsy Oil 1.
Harjo, Gypsy Oil 1.
Anna, Mid-Cont. Pet. 1.
7- 8- 7 Sturgeon, Empire G. & F. 1.
19- 8- 7 Harjoche, Marland Oil 1.
21- 8- 7 Lamony, Wentz Oil Corp. 1.
26- 8- 7 R. Jackson, Magnolia Pet. 1.
31- 8- 7 Reed, Magnolia Pet. 1.
9- 8- 8 Grisso, Magnolia Pet. 1.
15- 8- 8 Sewell, Crosbie 2.
W. Davis, Independent O. & G. 1.
Sewell, Independent, Champlin & Bass 2.
Davis, I. T. I. Oil 1.
16- 8- 8 Buck, Magnolia Pet. 1.
22- 8- 8 Holwell, Magnolia Pet. 1.
29- 8- 8 M. Walker, Dixie Oil 4.
Brown, Homaokla Oil 2-A.
Joshua, Magnolia Pet. 2.
30- 8- 8 M. Johnson, W. R. Ramsey 1.
32- 8- 8 Long "B", Dixie Oil 2.
E. Parker, Dixie Oil 4.
I. Walker, Dixie Oil 4.
Bagwell, Magnolia Pet. 3.
R. Jones, Magnolia Pet. 6.
R. Walker, Magnolia Pet. 3.
Jones, Shaffer O. & R. 9, 10, 11.
1- 7- 6 Dickson, I. T. I. Oil 1.
9- 7- 6 Litka, I. T. I. Oil 1.
30- 7- 6 Palmer, Independent O. & G. 1.
14- 7- 7 Jackson, Empire G. & F. 1.
20- 7- 7 Barkus, Gypsy Oil 1.
22- 7- 7 V. Jackson, Magnolia Pet. 1.
32- 7- 7 Marshall, I. T. I. Oil 1.
5- 6- 7 Vierson, Magnolia Pet. 1.
20- 6- 7 Dindy, Guy Swain 1.
18- 6- 8 Phillips, Carter Oil 1.

Shut Down

33-10- 6 Kinkade, Prairie O. & G. 9.
Houck, Prairie O. & G. 2.
4-10- 8 Dunn, Central National Oil 4.
5-10- 8 Roberts, Sinclair O. & G. 1.
9-10- 8 D. Hill, Sinclair O. & G. 2.
15- 9- 5 Talley, Barnsdall Oil 1.
8- 9- 5 Dobbs, Philmack and Marland 4.
9- 9- 5 McFarland, Gypsy Oil 3.
16- 9- 5 Earl, Gypsy Oil 2.
Day, Pure Oil 2.
17- 9- 5 Strain, Gypsy Oil 2.
Stebbins, Pure Oil 1.
3- 9- 6 Strothers, Roxana Pet. 1.
4- 9- 6 Lida, W. R. Pine 1.
15- 9- 6 Noble, Tidal Oil 1.
24- 9- 6 Mahardy, Tidal Oil 6.
34- 9- 6 Lincoln, Amerada Pet. 1.
16- 9- 7 Bull, Marland and Mid-Cont. Pet. 1.
21- 9- 7 Roger, Gypsy Oil 1.
28- 9- 7 Markwell, Pure Oil 1.
15- 8- 6 Goforth, I. T. I. Oil 1.
16- 8- 6 Jones, Atlantic O. P. Co. 2.
23- 8- 6 Hilly, Carter Oil 1.
15- 8- 8 Sewell, McMahon et al 1.
22- 8- 8 Sewell, Gypsy Oil 1.
22- 7- 6 Hotukla, Barnsdall Oil 1.
22- 7- 7 Coppage, Magnolia Pet. 1, 2.
Coppage, Transcontinental Oil 4.
Rigs, 71; wells drilling, 462; total, 533.

STEPHENS AND COTTON COUNTIES

Rigs

25-1s-9w D. Russell, Magnolia Pet. 14.
28-1s-8w Nelson, Ft. Ring Oil 1.
McAllester et al 2.
11-2s-8w Wade, Beard & Cobb 1.

Wells Drilling

1- 2-5w J. Gozo, Magnolia Pet. 1.
2- 2-5w G. Simms, Carter Oil 8.
14- 2-5w Truitt, Roger et al 2.
2- 1-5w M. Payne, Magnolia Pet. 1.
29- 1-5w W. Payne, Carter Oil 1.
31- 1-5w H. C. Payne, Magnolia Pet. 1.
32- 1-5w Charleston, Magnolia Pet. 3.
6- 1-4w Morgan, Lewis, Clark & Montgomery 1.
18- 1-4w Chrisholm, Magnolia Pet. 1-A.
32-1s-10w Fink, Garvin & Urice 1-A.
12-1s-9w Reeder, Margay Oil 2.
24-1s-9w Johnson, Magnolia Pet. 5.
25-1s-9w Clark, Grant et al 1-A.
7-1s-8w Lane, Margay Oil 5.
27-1s-8w Taliaferro, Harry Hanbury 5.
28-1s-8w Nelson, Winkler et al 3.
34-1s-8w Kaygay, Magnolia Pet. 17.

8-1s-5w Paker, Magnolia Pet. 1.
9-1s-5w Morris, Carter Oil 1.
13-1s-4w Underwood, F. W. Merrick 2, 3.
24-1s-4w Stewart, Gilmer et al 2, 3.
Encore, Skelly Oil 1, 2.
P. Courts, W. H. Smith 1.
A. Franklin, Wirt Franklin 2, 3, 4.
Encore, Winkler & McQueen 1.
22-2s-11w Koehler, J. W. Ray 1.
Shut Down
1- 1-9w Ball, Hammond & Haddock 1.
12- 1-6w Fernsley, Hall et al 1-A.
2- 1-5w Payne, Murphy Oil 3.
3- 1-5w Harrell, Magnolia Pet. 1.
34-1s-8w Nigh, H. Farley 1-A.
Rigs, 4; wells drilling, 36; total, 40.

TULSA COUNTY
Rigs
6-19-10 Strip, Wilson et al 1.
32-19-10 Grayson, Holmes, Sherry & Carter 1.
Wells Drilling
16-19-10 Gaskins, Superior O. & G. 2.
25-19-10 Storm, Holmes et al 2.
5-19-11 Bell, Regal O. & G. 3.
18-19-11 Unallotted, Enfisco Oil Corp. 1.
14-18-12 Gregory, C. G. Tibbens 2.
15-16-12 Johnstone, J. Crider et al 1.
8-16-14 Bennett, Savoy Oil 1.
Shut Down
32-19-12 Company, Sam McPherson et al 1.
34-17-12 Gilcrease, S. W. Anthoney 2.
1-17-13 Taylor, E. A. Hawley 1.
18-17-13 Berryhill, Welch et al 1-A.
34-17-13 Herrick, W. A. McCullough 2.
7-16-14 Buck, Savoy Oil 1.
Rigs, 2; wells drilling, 13; total, 15.

MISCELLANEOUS COUNTIES
Rigs
Woods County—
20-27-15w Marcum, Sooner State Oil and E. R. Black 1.
Kingfisher County—
6-16-7w Campbell, Pet. Research Core Drill Co. and Durwood Oil 1.
Oklahoma County—
15-12-3w Thompson, Cromwell O. & G. 1.
Haskell County—
26- 8-20 Johnson, San Bois Gas Co. 1.
Beckham County—
24- 9-23w Davis, Sayre O. & R. 1.
35- 9-22w Abbot, Pferffel et al 1-A.
Murray County—
27-1s-2e Freeman, Thompson Oil Corp. 1.
Bryan County—
26-5s- 7 Marshall, Marshall Pet. 1.
Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)
Noble County—
29-24-1w Reed, Mid-Cont. Pet. 6*.
22-23-2w Brumfield, Midco Oil Corp. 3.
1-22-2w White, K-D Oil 4.
15-21-2w Sams, Magnolia Pet. 1*.
Pearson, Magnolia Pet. 1.
7-21-1w Williams, R. L. Corley 1*.
Harper County—
14-25-22w Cooper, Hoffer Oil 1*.
Woodward County—
32-24-17w Simmons, Otstot Dev. Co. 1*.
25-21-21w Elmore, Sharon Oil 1*.
Major County—
4-23-16w Parker, Henry Randon 1*.
Ellis County—
9-21-25w ———, Oklahoma Northern Oil 1.
Dewey County—
9-18-15w Perfect, Huckleby McCoy 1.
Kingfisher County—
25-17-5w Pool, Ramsey Bros. 1.
27-16-6w Sturgeon, McKenna & Crawford 1*.
26-16-5w Johnson, Galt Brown Oil 1.
Canadian County—
6-14-6w Platt, A. D. Spears et al 1*.
18-13-10w North, Carrell Oil Corp 1*.
Oklahoma County—
21-14-3w Walgren, Cromwell & Wirt Franklin 1.
18-13-3w Lufkin, Slick & Bailey 1*.
28-12-4w Stone, Cromwell & Wirt Franklin 1.
28-11-5w Dalton, Ramsey Bros. 1*.
9-11-1w Gludoracey, Bailey & Ramsey 1.
Cimarron County—
24- 6-2e ———, Jake G. Phillips 1.
22- 5-2e Sinclair O. & G. 1.
27- 5-5e State land, Ramsey Bros. 1.
4- 5-6e School land, Ramsey Pet. 1.
25- 3-7e Israel, Gladys Belle Oil 1.
2- 2-9e Smaltz, Fenton, Brookins & Flowers 1*.
Texas County—
23- 2-18e Graves, Connelly, Trammell & Danner 1*.
4- 1-13e Becker, Dutton & Hill 1*.
26- 1-15e Hitch, H. & H. Oil 1.
11- 1-18e Price, Three Way Oil 1.
5- 1-19e Tansey, Trammell, Connelly & Danner 1*.
Mayes County—
8-20-19 Drew, J. L. Dixon 1*.
McIntosh County—
11-12-15 Perryman, John Aggas et al 1*.
Sequoyah County—
33-11-25 Foxeygann, Sequoyah Gas Co. 1.
15-10-26 Fox, H. H. Orr et al 1*.
Pittsburg County—
32- 9-16 Smith, J. L. Pattison 1.
11- 7-18 Cohler, San Bois Gas Co. 1.
Haskell County—
10- 9-18 Sandars, Marion Oil 1*.
Cleveland County—
22-10-2w Donvan, Cromwell & Franklin 1.
7- 9-1w Alexander, Gault Brown Oil 1.
20- 8-1e Woodrow, Mid-Cont. Pet. 1.
15- 7-1w Vandeer, Sooner Oil 1.
11- 6-1w Lefure, Magnolia Pet. 1.
25- 6-1e Byrd, Wiser Oil 1.
Beckham County—
35- 9-25w Adams, V. S. Nelson 1.
21- 9-23w Hawkins, Bucy & Clay 1.
32- 9-22w Barnes, C. & H. Pet. 1.
Kiowa County—
5- 6-18w Bonham, A. C. Varner 1*.
6-2s-16w ———, Land Fair et al 1.
Caddo County—
22- 6-10w Jacobs, English Drlg. Co. 1*.
29- 6-12w Gilbreath, W. J. Hartley 1*.
31- 6-9w Abernathy, English Drlg. Co. 5.
17- 5-14w Jones, Mason et al 1.
1- 5-10w Edwards, Magnolia Pet. 3.
1- 5-9w Yule, Gustaffson et al 1-A.
Comanche County—
32- 4-10w Poll, Abernathy et al 2*.
24- 2-10w Watson, Couch & Cherry 1.
14- 1-12w Wilson, Green et al 1.
30-1s-13w Cox, Mid-Kansas Oil 1*.
Tillman County—
13-1s-18w Snelly, Oasis Oil 1*.
Jefferson County—
24-4s-5w Dukes, McBybee et al 1*.
11-5s-7w Dilly, Danciger Oil 1.
23-6s-6w Ryarn, Magnolia Pet. 1.
4-6s-5w Gibson, Carter Oil 1.
23-7s-7w Hayes, Woods Pet. 1.
9-7s-5w Seay, Humble O. & R. 1.
Murray County—
17- 1-2e Wolfe, Revels & Magee 1*.
21- 1-4e Davis, Galt Brown Oil 1.
Marshall County—
11-5s-4e Chapman, Bilbo et al 1.
Love County—
10-6s-3w Laten, R. M. Boring et al 1.
7-7s-3e Askew, Magnolia Pet. 1.
Rigs, 8; wells drilling, 73; total, 81.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	20	1,358	5	..
Cowley	7	140	3	1
Chautauqua and Elk	9	460	4	1
Greenwood	22	678	8	1
Marion	4	12	3	..
Sumner	13	6,293	3	1
Woodson	17	2,395	6	..
Miscellaneous	13	165	8	2
Total May	105	11,501	40	6
Total April	154	13,832	58	8
Difference	49	2,331	18	2

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	12	41	53
Chautauqua and Elk	5	12	17
Cowley	4	25	29
Greenwood	10	30	40
Marion	1	12	13
Reno	3	6	9
Sumner	7	15	22
Miscellaneous	13	80	93
Total May	55	221	276
Total April	56	254	310
Difference	1	33	34

BUTLER COUNTY
17-28-3 Staley, Findless et al 1 ... dry
3-28-6 Kramer, Allison & Fitzwilliams 1 ... 125
8-24-4 Harrison, Skelly, Phillips Pet. and Connell 1 ... dry
20-26-8 D. Bitler, Rogers et al. 15 ... 75
D. Bitler, Rogers et al. 16 ... 75
31-26-8 D. Bitler, Federal Oil Co. 11 ... 100
4-27-6 Shaffer, Rosenthal, Lassen et al 4 ... 60
34-27-6 Shriver, Magnolia Pet. Co. 2 ... 50
Shriver, Patton et al. 1 ... 50
10-28-4 Moyle, Empire G. & F. Co. 44 ... 50
3-28-6 Gilson, Mid-Kansas Oil Co. 1 ... 35
28-29-3 Kramer, Shawver et al. 1 ... dry
33-27-6 Stern, Patton et al. 1 ... 220
13-27-7 Parker, Phillips Pet. Co. 2 ... 75
7-29-4 Holcomb, Producers Pet. Co. 1 ... 8
20-26-3 Hoerman, Empire G. & F. Co. 1 dry
3-27-6 Lewis, Davis et al. 1 ... 25
9-27-6 Cabine, Intersea & Blankinship 2 ... 275
2-28-4 King, Derby Oil Co. et al. 1 ... dry
4-28-6 Blakeman, Magnolia Pet. Co. 5 ... 125

Wells completed ... 20
Production ... 1,358
Dry ... 5

COWLEY COUNTY
22-31-4 King, McCullough et al. 1 ... dry
22-32-4 Brane, Sutter & Adams. 1 ... 60
City of Winfield, Wakefield et al 1 ... gas
20-32-3 Carson, T. B. Slick 1 ... dry
22-32-4 Dibbons, T. B. Slick 4 ... 60
24-32-4 Ditmer, J. A. Hull 10 ... 20
19-34-3 Bestle, Marland Oil Co. 1 ... dry

Wells completed ... 7
Production ... 140
Dry ... 3
Gas ... 1
Gas production ... 4,500,000

CHAUTAUQUA AND ELK COUNTIES
14-31-10 Leffingwell, Union Gas Corp. 10 200
28-29-10 Osborne, J. S. Cosden et al. 1 .. dry
1-32-10 Oliver, Griffin, Bell et al. 3 ... gas
41-31-10 Chaffine, Pure Oil Co. 19 ... 60
Leffingwell, Union Gas Corp. 11 100
23-31-10 Webb, Frazier, Fowler et al 5 .. 100
11-32- 9 Wolf, Watchorn O. & G. Co. 1 .. dry
8-29-11 Reid, Kismet Oil Co. et al. 1 .. dry
29-30-12 Dunlap, Harvey & Robinson 1 .. dry

Wells completed ... 9
Production ... 460
Dry ... 4
Gas ... 1
Gas production ... 2,000,000

GREENWOOD COUNTY
31-23-10 Martindale, Mid-Kansas Oil 34 40
4-24-10 Williams, Basom et al. 1 ... dry
6-24-13 Kulander, Sharpless et al. 1 .. dry
17-23-11 Kipfer, Jennings et al. 1 ... dry
18-23-13 Fletcher, Patterson et al 1 ... dry
21-23-13 Jones, Superior Oil Co. 9 ... 15
13-26- 9 Life, Beacon Oil Co. 2 ... 10
19-22-10 Browning, Sinclair Oil Co. 55 .. 100
20-22-10 Browning, Sinclair Oil Co. 56 .. 100
26-24- 9 Gray, White et al. 3 ... 25
18-24-11 Robertson, Empire G. & F. 5 ... 15
34-24-11 Cummings, Houer et al. 1 ... dry
17-24-13 Erickson, Abel, Rhodes et al 1 20
22-27- 9 Lilly, Superior Oil Co. 1 ... dry
5-24-12 Morris, The Prairie O. & G. 1 70
12-22-11 Kipfer, Schwartz et al 1 ... dry
21-23-11 Edwards, Empire G. & F. Co. 8 250
6-24-11 Freeman, Abel, Rhodes et al. 1 dry
12-25- 8 Welch, Roth & Faurot 4 ... 10
35-25-10 Townlot, Polhamus et al. 1 ... 15
31-25-11 Shell, Roth, Faurot et al 1 .. 8
28-26- 9 Olson, Wilson et al. 1 ... gas

Wells completed ... 22
Production ... 678
Dry ... 8
Gas ... 1
Gas production ... 2,000,000

MARION COUNTY
13-20-4 Lehl, Empire G. & F. Co. 1 ... dry
8-19-4 Propp, Youker, Propp et al. 2 12
19-20-4 Harrison, Tulsa Oil Co. et al 1 dry
8-17-3 Damon, Arkansas Fuel Oil Co. 1 dry

Wells completed ... 4
Production ... 12
Dry ... 3

SUMNER COUNTY
25-31-2e Reitz, Derby Oil Co. 2 ... 500
Mason, Roxana Pet. Co. 4 ... 424
Churchill, Roxana Pet. Co. 7 ... 444
Shore "B," Roxana Pet. Co. 3 1000
18-35-1e Hamilton, Amerada Pet. Co. 1 gas
24-31- 2 Shore, Vickers & Johnson 3 ... dry
19-30-4w Kelly, Champlin O. & R. Co. 1 dry
25-31-2e Sleigh, Roxana Pet. Co. 1 ... 700
Riverbed, Roxana Pet. Co. 7 .. 325
Churchill, Roxana Pet. Co. 8 .. 900
36-31-2e Riverbed, Roxana Pet. Co. 2 .. 1000
Taton, Roxana Pet. Co. 1 ... 1000
16-35-2e White, Washington O. & G. 1 dry

Wells completed ... 13
Production ... 6293
Dry ... 3
Gas ... 1
Gas production ... 8,000,000

WOODSON COUNTY
2-24-13 Dye, Sullivan et al. 1 ... dry
22-26-14 Ekord, Culp et al 1 ... dry
23-26-14 Shaffer, Brinegar et al 1 ... dry
Lauber, Peerless O. & R. Co. 5 200
Lauber, Peerless O. & R. Co. 6 250
Lauber, Peerless O. & R. Co. 7 250
Lauber, Peerless O. & R. Co. 8 200
Lauber, Peerless O. & R. Co. 9 200
Louck, Peerless O. & R. Co. 4 285
Louck, Peerless O. & R. Co. 5 200
Louck, Peerless O. & R. Co. 6 250
27-26-14 Alvis, Peerless O. & R. Co. 1 dry
20-26-15 Eaglebrecht, Allison & Fitzwilliams 1 ... dry
23-26-14 Lauber, Peerless O. & R. Co. 3 300
Lauber, Peerless O. & R. Co. 4 250
24-26-14 McDonald, McCullough et al. 1 dry
32-23-14 Dewey, Superior Oil Co. 15 ... 10

Wells completed ... 17
Production ... 2,395
Dry ... 6

MISCELLANEOUS COUNTIES
Lyon County—
2-21-10 Rossillion, Marland Oil Co. 1 .. dry
24-21-10 Rossillion, Super Six Oil Co. 4 20
25-21-10 Bradfield, Jackson & Wise 2 .. dry
16-21-10 Jones, Loy et al. 1 ... dry
22-21-12 Holmerickhouse, Balliere et al 1 dry
Barton County—
28-18-12w Sooy, Rankin et al 1 ... dry
McPherson County—
29-18-2w Anderson, Merriman et al 2 .. gas
Harper County—
19-32-5w Burk, Berry Pet. Co. 1 ... dry
Chase County—
32-18-7 Lipps, Kewanee O. & G. Co. 1 .. dry
29-18-7 Lipps, Phillips Pet. Co. 1 ... gas
Rice County—
35-20-6w Welch, Skelly Oil Co. 2 ... 25
2-21-6w Walstein, Independent O. &G. 5 120
Kingman County—
20-27-7w Woolsey, Pyle et al 1 ... dry

Wells completed ... 13
Production ... 165
Dry ... 8
Gas ... 2
Gas production ... 11,800,000

BUTLER COUNTY
Rigs
35-25-4 Dillenbeck "A," Paul & Nuttle 2.
3-26-4 Kappes, Connell Oil Co. et al. 1.
31-26-6 Fisher, Payne & McKenna 1.
20-26-8 D. Bitler, Rogers et al. 17.
36-27-5 Colbert, Reynolds et al. 1.
4-27-6 Shaffer, Rosenthal, Lassen et al. 6.
9-27-6 McGinnis, Allison & Fitzwilliams 3.
Tatum, Phillips Pet. Co. 3.
33-27-6 Shriver, Patton et al. 3.
17-27-7 Knox, Skelly Oil Co. et al. 1.
3-28-6 Kramer, Allison & Fitzwilliams 3.
26-28-6 Mathews, Shawver & Sutter 1.
Wells Drilling
25-24-7 Stone, Powell et al. 1.
23-25-6 Clayton, Haworth, Howard et al. 1.
9-26-3 Dickinson, Pryor & Lockhart 1.
20-26-3 Marmane, Barnsdall Oil Co. 1.
30-26-6 McClure, Foraker et al. 1.
7-26-7 De Mour, Morris et al. 1.
17-26-8 Dickinson, Tidal Oil Co. 3.
27-27-5 Hutchinson "B," Empire G. & F. 1.
34-27-5 Hutchinson, Empire G. & F. Co. 1.
4-27-6 Henry, Phillips Pet. Co. 1.
Shaffer, Rosenthal, Lassen et al. 5.
Beedles, Skelly Oil Co. 1.
5-27-6 McLean, Blue Stem Oil Co. 4.
8-27-6 Brissey, Richmond Drlg. Co. 2.
Brissey, Phillips Pet. Co. 1.
9-27-6 McGinnis, Allison & Fitzwilliams 2.
McGinnis, Phillips Pet. 1.
17-27-6 McLean, Phillips Pet. Co. 1.
33-27-6 Shriver, Patton et al. 2.
36-27-6 Figge, Liggett et al. 3.
14-27-7 Harris, Christy et al. 1.
11-28-4 Wallace, Empire G. & F. Co. 18.
9-28-5 Hoffman, Connell Oil Co. et al. 1.
3-28-6 Blakeman, Mid-Kansas Oil Co. 6.
10-28-6 Rogey, Johnson et al. 1.
24-28-6 King, Morgan et al. 1.
13-28-7 Frence, Davidson et al. 1.
1-29-3 Doran, Helmerick & Payne 1.
26-29-4 Isaac, York State Oil Co. 1.
9-29-5 Houser, Bronson et al. 1.
5-29-7 Gibbons, Flack & Davidson 1.
Shut Down
18-25-4 Joseph, Wichita Drlg. Co. 1.
20-25-7 Lambert, Burford & Brimm 1.
31-25-8 Jahren, McPherson & Jones 1.
32-26-4 Sculley, Elmwood Oil & Douglas 1.
30-26-6 Unger, Payne, McKenna et al. 1.
2-26-7 Cannon, Basom et al. 1.
1-28-5 Weaver, Dixie Oil Co. et al. 1.
25-29-3 Schultz, B. G. & M. Oil Co. 1.
21-29-4 Holcomb, E. Wilcox et al. 1.
12-29-6 Keneyon, Tobin et al. 1.
Rigs, 12; wells drilling, 41; total, 53.

CHAUTAUQUA AND ELK COUNTIES
Rigs
13-29- 8 Porter, Empire G. & F. Co. 6.
13-31-10 Webb, Pure Oil Co. 13.
14-31-10 Leffingwell, Union Gas Corp. 12, 13.
27-31-10 Marshall, Theta Oil Co. 2.
Wells Drilling
4-34- 9 Fisher, Jens Marie Oil Co. 1.
27-29- 8 Erickson, Roth & Co. 1.
15-29-10 Eaglin, Arkansas Fuel Oil Co. 1.
12-30- 9 Donnall, Seeley et al. 3.
14-30-10 Mills, Elmwood Oil Co. 2.
1-31 9 Brace, Roth, Faurot et al 1.
14-31-10 Chaffine, Pure Oil Co. 18.
15-31-10 Webb, Leighty et al. 1.
18-31-10 McSpadden, Love & Watson 1.
7-31-11 Knabe, Superior Oil Co. 2.
Shut Down
34-31-11 Ayers, Abel, Byington et al. 1.
27-33-11 Schelkoph, The Prairie O. & G. 10.
Rigs, 5; wells drilling, 12; total, 17.

COWLEY COUNTY
Rigs
20-30-6 Manley, Allison & Fitzwilliams 1.
36-30-6 Marshall, Herron et al. 1.
28-30-8 Furguson, Furguson & Hait 1.
8-33-5 Bailey, Klossig & Kitchell 1.
Wells Drilling
21-30-3e Carlson, Roxana Pet. Co 1
18-31-3e Willis, The Texas Company 1
36-31-3e Freilinger, Trees Oil Co. 1.
21-31-4e Hettle, The Texas Company 1.
33-31-4 Goodrich, Brimm et al. 1.
10-32-4 Graham, Imo Oil Co. 1.
22-32-4 Oilverson, Foster, Deal et al. 1.
Dibbons, T. B. Slick 5.
Townsite, Roth & Faurot 1.
21-31-4 Goodrich, Twin State Oil Co. 3.
6-32-5 Brown "A," Arkansas Fuel Oil 1.
33-32-7 Countryman, White Eagle O. & R 1.
28-33-3 State land, Babcock et al. 1.
5-33-5 Bell, Neeley O. & G. Co. 1.
4-33-7 Countryman, Forrester et al. 1.
4-34-3 Beeka, Gypsy Oil Co. 1.
16-35-4 Leshlougan, Pyle & Sutter 1.
Shut Down
20-30-3 Nave, Roxana Pet. Co. 1.
29-30-3 Beard, Roxana Pet. Co. 1.
20-31-4 Hughes, Brinn et al. 1.
4-31-5 Elliott, Tatlock & McCullough 1.
15-32-4 School land, Marland Oil Co. 2.
7-33-7 Riding, Brown Bros. 1.
25-34-6 Day, Lewis Oil Co. 1.
3-35-4 Eaton, Dickey et al. 1.
Rigs, 4; wells drilling, 25; total, 29.

GREENWOOD COUNTY
Rigs
7-22-10 Pixlee, Ritchie & Moore 2.
14-22-11 Hood, Roxana Pet. Co. 2.
18-22-11 Slopton, Simmons et al. 4.
34-23- 8 Mosby, Buck et al 1.
5-23-9 Hill, Leeward Pet. Co. 3.
36-24-10 Mock, McGinnis et al. 5.
19-24-11 Freeman, Chistler et al 2.
22-26- 9 Lowery, Noble et al. 1.
12-26-10 Hull, Mason & Ralston 1.
33-27-13 Lessney, Culp et al. 1.
Wells Drilling
17-22-10 Browning, Theta Oil Co. 19.
14-22-11 Duby, Empire G. & F. Co. 14.
23-22-11 Duby, Empire G. & G. Co. 13.
26-22-11 Oliver, Loy & Leader 1.
23-22-12 Broddock, Rhodes et al 2.
15-23- 9 Teter, Scott et al. 1.
3-23-10 Laird, Snyder et al. 1.
24-23-12 Fletcher, Stark et al. 1.
5-24-12 Smith, Parrish et al. 1.
7-24-12 Thrall, Sharpless et al. 1.
36-24-12 Hoover, Cross et al. 1.
24-25- 8 Hoffman, Mid-Kansas Oil Co. 2.
34-25- 8 Hull, Tidal Oil Co. 31.
31-25-10 Keller, Ferrell et al. 1.
26-26- 8 McGinnis, Flack et al. 1.
28-26- 9 Turpen, Henderson & Holdren 1.
7-26-10 Edwards, Murphy et al. 1.
7-27-10 Weaver, Griffith et al. 1.
17-28- 9 Boyce, Hayes et al. 1.
25-24-12 Beevers, The Prairie O. & G. Co. 1.
24-23-12 Ott, The Prairie O. & G. Co. 1.
Shut Down
32-22-11 Oragan, Connell Oil Co. et al. 1.
22-22-13 Pavemire, Aikman et al. 1.
11-23- 9 Nettle, Phillips Pet. Co. 1.
6-23-10 Barnard, Basom et al. 1.
23-24-10 Edwards, Edwards et al. 1.
11-25-11 Deets, Callahan et al. 1.
5-25-13 Gilroy, Mendenhall et al. 1.
25-26- 9 Saurwine, Kurtz et al. 1.
1-28-12 Hayes, Swanson et al. 1.
Rigs, 10; wells drilling, 30; total, 40.

MARION COUNTY
Rig
4-17-4 Williams, Skow Bros. et al. 1.
Wells Drilling
12-17-4 Cowman, Harwood, Winters et al. 1.
21-17-4 Bevens, Sinclair O. & G. Co. 1.
31-17-4 Ucker, Stivens et al. 1.
17-19-4 Reed, Frank et al. 1.
36-20-3 Ely, Empire G. & F. Co. 1.
28-20-4 Stafford, Hartman & Skaer 1.
15-21-3 Dock, Allison & Fitzwilliams 1.
31-21-4 Townsend, Crow et al. 1.
21-17-4 Mowrer, The Prairie O. & G. Co. 1.
Shut Down
23-18-3 Vinguska, Skow Bros. et al. 1.
20-18-4 Melcher, Skow Bros. et al. 1.
2-22-3 Bern, Cameron et al. 1.
Rigs, 1; wells drilling, 12; total, 13.

RENO COUNTY
Rigs
6-22-4w Williams, Danciger et al. 1.
8-24-7w Crotts, Findless et al 1.
1-25-8w Crabbs, Streeter & Stearns 1.
Wells Drilling
19-22-7w Griffin, Mississippi Valley O. Co. 1.
35-22-10w Kessling, Pryor & Lockhart 1.
28-23-8w Dunn, Hartman & Skaer 1.
34-25-9w Baley, Connell Oil Co. 1.
4-26-4w Griffith, Marland Oil Co. 1.
25-26-9w Dutton, T. B. Slick 1.
Rigs, 3; wells drilling, 6; total, 9.

SUMNER COUNTY
Rigs
25-31-2e Riverbed, Roxana Pet. Co. 8.
Wiles, Roxana Pet. Co. 3.
Churchill, Roxana Pet. Co. 9.
Rutter, Roxana Pet. Co. 5.
15-34-1e Fulcher, Homa-Wood Oil Co. 1.
4-34-3w Werneck, Jarvis et al. 1.
9-35-1e Volker, Otstot et al. 1.
Wells Drilling
4-30-1w Wheeler, Champlin O. & R. Co. 1.
9-30-2w Latta, Champlin O. & R. Co. 1.
3-31-2e Griffeth, Gypsy Oil Co. 1.
25-31-2e Sleigh, Roxana Pet. Co. 2.
36-31-2e Riverbed, Roxana Pet. Co. 6.
Taton, Roxana Pet. Co. 2, 3.
8-31-3w Orr, Carter Oil Co. 1.
14-32-2e Emerich, Roxana Pet. Co. 1.
17-32-2e Norris, R. D. Oil Co. 2.
34-32-2e Nofsinger, Shawver et al. 1.
23-34-2w Douglas, Gypsy Oil Co. 1.
Shut Down
14-32-2e Buffington, Amerada Pet. Co. 1.
22-33-3w Bartlow, Otstot et al. 1.
11-34-4w Wycoff, Jarvis et al. 1.
Rigs, 7; wells drilling, 15; total, 22.

MISCELLANEOUS COUNTIES
Rigs
Chase County—
36-18-6 Lipps, Preston & Pasewalk 5.
29-18-7 Lipps, Phillips Pet. Co. 2.
Dickinson County—
17-15-4 Reardon, Phillips Pet. Co. 1.
15-16-4 Kutler, Frank et al. 1.
Geary County—
16-10-5 Fawley, Brinkley et al. 1.
Lyon County—
13-21-11 Burenweide, Parkening et al. 1.
Morris County—Shut Down
32-14-7 Barber, Klein et al. 1.
Osage County—
33-17-14 Stark, Stark et al. 1.
Pottawatomie County—
17-9-12 Stewart, Crawford et al. 1.
31-9-12 Bratchbar, Crawford et al. 1.
Sedgwick County—
9-25-2e Harrison, Smith & Keller 1.
Smith County—
18- 5-15w Smith, Gardener et al. 1.
Stafford County—
23-21-11w Sieffers, Harper & Medeo 1.

Wells Drilling and Shut Down
(Shut Down Wells Indicated by*)

Barber County—
35-32-14w Ott, Vickers & Miller 1.
Barton County—
9-16-15w Craft, Johnson et al. 1.
25-17-15w Boyle, Phillips Pet. Co. 1.
31-18-12w Taul, Haynes et al. 1*.
17-19-11w Smith, Huffine et al. 1.
12-20-13w Ward, Everette & Wiley 1*.
Chase County—
31-18-7 Lipps, White Eagle O. & R. Co. 1.
25-21-9 Statler, Barnsdall Oil Co. 1*.
Clark County—
16-31-23w Mitchell, Walker & Walner 1*.
21-32-21w Stephens, Watchorn O. & G. 1.
Cloud County—
6-6-4w Murdock, Concordie O. & P. Co. 1*.
Coffey County—
10-21-15 Bodley, Kinney Ref. Co. 1*.
19-22-16 Decker, Ritchey & Moore 1*.
14-23-16 Jones, Fidelity Oil Co. 1*.
Dickinson County—
23-13-3e Jones, Leeward Pet. Co. 1.
Ellis County—
26-13-16w Leiker, Tatlock et al. 1*.
27-13-16w Reideil, Mid-West Ref. Co. 19.
13-13-18w Gerstner, Keys Promotion Co. 1.
14-14-16w Robbins, Day et al. 1.
Franklin County—
17-16-18 Owens, Smith, Thrice & Fisher 1*.
Geary County—
18-11-5 Kurtz, Kirby & Wright 1.
Harper County—
22-34-6w Caton, Bu-Vi-Bar Pet. Co. 1.
Harvey County—
3-23-1e Sowder, Kansas Central Oil Co. 1.
Hodgeman County—
19-21-22w Frizzell, Spencer and Marconnette 1*.
Jefferson County—
13-9-19 Edwards, Northern Counties Oil 1*.
Labette County—
1-33-17 Hornbeck, Cowell et al. 1*.
5-33-20 Lipps, Wantland et al. 1*.
Lyon County—
25-19-10 Bibermyer, Culp et al. 1.
30-21-12 Hooper, Leonard Pet. Co. 1.
McPherson County—
22-18-2w Okerland, Olstot et al. 1.
25-18-3w Hanson, McLaughlin et al. 1*.
12-19-3w Kuns, Johnson et al. 1.
30-21-5w Ross, Laughlin et al. 1*.
6-21-2 Wedell, The Prairie O. & G. Co. 1.
Montgomery County—
31-31-14 Faler, Ramler et al. 1*.
29-32-17 Hellum, Earl & Overlease 1*.
4-35-17 Walker, Gallowye & Roberts 1*.
Morris County—
14-16-7 Eammer, Nicols et al. 2.
24-17-9 Cessman, Rock Creek O. & G. Co. 1*.
Nemaha County—
19-3-11 Myers, Nemaha O. & G. Co. 1*.
Osage County—
3-15-15 Lease, Barber et al. 1*.
27-15-16 Baley, West et al. 1*.
8-17-17 Neil, Mul-Vit Dev. Co. 1*.
29-18-16 Blank, Young et al. 1*.
Pottawatomie County—
11-10-12 St. Mary, Crawford et al. 1*.
Rawlins County—
5-3-34 Gordon, Byson Oil Co. 1*.
Rice County—
2-19-10w Hollscher, Sparta Drlg. Co. 1*.
35-20- 6w Welch, Phillips Pet. Co. 1.
Miller "A" The Prairie O. & G. 3.
Welch, Prairie O. & G. 4.
2-21- 6w Jacobson, Sand Creek Oil Co. 3.
3-21- 6w Miller, Independent O. & G. Co. 2.
34-21- 7w Trotter, Mississippi Valley Co. 1.
13-21- 8w Syminson, Mid-Kansas Oil Co. 1.
Riley County—
26-10-7 Thierer, Youker et al. 1.
Rooks County—
11-9-16w Lukman, Livingston et al. 1.
Russell County—
16-12-15w Beller, Wilcox O. & G. Co. 1.
30-12-15w Ginther, Mid-West Ref. Co. 33.
7-13-15w Goraham, Streeter & Stearns 1.
5-14-15w Dortland, Mid-West Ref. Co. 6.
22-15-11w Lilak, Streeter & Stearns 1*.
Saline County—
29-14-2w Davis, Johnson et al. 1.
13-15-4w Holquest, Thrall et al. 1*.
Sedgwick County—
6-25-1e Poff, Boyle et al. 1*.
34-26-1e Jaden, Wichita O. & G. Co. 1*.
5-28-1w Schultz, Marland Oil Co. 1.
Seward County—
33-32-34w Hitch, Vickers Pet. Co. 1.
14-33-33w Son, Wilson et al. 1.
Stafford County—
24-22-11w Richardson, Randall et al. 1*.
Stephens County—
31-32-37w Jones, Independent O. & G. 1*.
Wabaunsee County—
15-13-12 Henderson, Williams et al. 1*.
Wilson County—
23-28-13 Thompson, Price et al. 1*.
29-30-17 Smalley, West & Williams 1*.
Woodson County—
30-23-14 Collins, Schometus et all. 1.
13-26-14 Daniels, Skelly Oil Co. 1*.
23-26-14 Lauber, McCullough et al. 1*.
Duncan, Peerless O. & R. Co. 1*.
26-26-14 Gregory, McMullen et al. 1*.
27-26-14 Henley, Peerless O. & R. Co. 1*.
9-25-14 Northcote, The Prairie O. & G. 1*.
Rigs, 13; wells drilling, 80; total, 93.

EAST TEXAS FIELDS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Ttl.
Limestone	4	4	0	0	4	4
Anderson	1	1	0	0	1	1
Ellis	1	1	0	0	0	0
Cherokee	0	0	0	0	5	5
Franklin	0	0	0	0	1	1
Freestone	0	0	0	0	3	3
Henderson	0	0	0	0	1	1
Hunt	0	0	0	0	1	1
Kaufman	0	0	0	0	1	1
Navarro	0	0	0	0	3	3
Total May	6	6	0	0	20	20
Total April	8	8	0	0	23	23
Difference	2	2	0	0	3	3

WELLS COMPLETED

Limestone County—
Oliver, Shaffer et al 1 ..... abd
Brown, McCarty et al 1 ..... dry
Jones, Dillon & Hammond 1 ..... dry
Sharp, Alexander, Lilies et al 1 ..... dry
Anderson County—
Clemmons, Humble O. & R. 1 ..... dry
Ellis County—
Rochel, Farish, Watts & Collins 1 ..... dry

Wells completed 5
Dry 5

RIGS AND WELLS DRILLING
Wells Drilling

Anderson County—
So. Pine Lbr., Humble O. & R. 1.
Cherokee County—
Reynolds Mortgage Co., Humble O. & R. 1.
Earl & Ragsdale, Humble O. & R. 2.
Elliott & Clark, Humble O. & R. 1 (sand).
Hill, Nicolle & Wife 1*.
Sumner, Magnolia Petroleum 1*.
Franklin County—
Gandy, Trout et al 1*.
Freestone County—
Pickens, Kechi Petroleum 1*.
Woods, Cosden et al 1*.
Coleman, Orbit Oil 1*.
Henderson County—
Purefay, Cranfill & Reynolds 1.
Hunt County—
Grainer, Amerada Pet. 1.
Kaufman County—
Nicholson, Cranfill Bros. 1.
Limestone County—
Dies, C. W. Green et al 1.
Stuberauch, Smith et al 1 (gas sand).
Bassett, Pandem Oil 1.
Tanner, Dillon & Hammond 1*.
Navarro County—
Swink, Sun Oil 3*.
Stubbs, Reiter et al 1*.
Marshall, Magnolia Pet. 1*.
Rigs, 0; wells drilling, 20; total, 20.

SOUTHWEST TEXAS

Summary of Field Operations

	Com.	Prod.	Dry	Gas	Rig	Drg.	Ttl.
Mirando	28	135	16	9	5	32	37
Rockdale-Minerva	11	173	2	0	3	6	9
Luling	4	293	0	0	0	0	0
Kingsville	0	0	0	0	0	7	7
Refugio	4	0	1	3	0	8	8
Adams Field	4	0	1	2	0	4	4
Somerset	11	114	1	0	4	1	5
Mis. fields	29	24	23	3	11	75	86
Total May	90	739	44	17	23	133	156
Total April	117	1,111	55	20	33	118	151
Difference	27	372	11	3	10	15	5

WELLS COMPLETED
MIRANDO DISTRICT

Cole Field-Duval—Moody Humphreys 2 ..... gas
Cole Petroleum 37 ..... gas
Cole Petroleum 40 ..... gas
Cole Petroleum 41 ..... abd
Cole Petroleum 42 ..... gas
Houston Oil-Sun Oil A-2 ..... gas
Barkley-Meadows, Morgan-Gulf 3 ..... gas
Houston Oil-Sun Oil A-3 ..... gas
Randado Field-Jim Hogg—Livingston-Ritchson 1 ..... abd
The Texas Company 2 ..... abd
Simms Oil 12 ..... abd
Johnson 22, 23, 21 (location only) ..... abd
Kitselman & St. Albans—Edward St. Albans 7 100
Associated Oil 3 ..... abd
Alworth Bros.—Alworth Bros. 7 ..... abd
Alworth Brothers 12 ..... abd
Schott Field-Webb—Magnolia Pet. 7 35
Jones, Garcia Oil 3 ..... abd
Albercas Field —O. W. Killam 1 ..... gas
Carolina-Texas—Moody Oil 1 ..... abd
Gibble Petroleum 1 (location) ..... abd
Houston Oil A-1 ..... gas
Morgan-O'Hern & Seacord 1 ..... abd
Mirando Valley—Ray Woods 1 (location) ..... abd
Aztec Oil 4 ..... abd
H. E. Neal 1 ..... abd
J. L. Johnson 1 ..... abd

Completed 28
Gassers completed 9
Oil production 135
Dry and abandoned 16
Gas production 361,000,000

ROCKDALE-MINERVA FIELD

Kent-Middleton—No. 1, wildcat 10
Chicago Oil & Land—Gambill 5 15
Coffield-Hale & Noack-Vance 1 6
Chicago Oil & Land-Gambill 6 ..... abd
Bagget Brothers-Mrs. Fowler 1 ..... abd
Kent-Middleton—Dan Wooten 1 40
Coffield-Hale—Hicks 4 12
Rockdale Dev.—Lorenz 2-B 20
Kent-Middleton—Hicks John 5 15
Lowenstein Oil Co.—No. 2 well 40
Kent-Middleton—Rowland 1 15

Wells completed 11
Oil production 173
Dry and abandoned 2

LULING FIELD

Magnolia Petroleum—Proctor 14 80
Magnolia Petroleum—Trammel 18 110
Magnolia Petroleum—Carter 3 25
Magnolia Petroleum—Branyon 5 78

Wells completed 4
Oil production 293
Dry and abandoned 0

REFUGIO GAS FIELD

Houston Gulf Gas—Holmes Heard 3 ..... abd
Houston Gulf Gas—Fox 3 ..... gas
Houston Gulf—Moody 3 ..... gas
Coast Gas—Lambert 1 ..... gas

Wells completed 4
Gassers completed 3
Gas production 48,000,000
Dry and abandoned 1

ADAMS GAS FIELD

Temeco Oil—Chandler 1 ..... gas
Witherspoon Oil—Nixon 1 ..... abd
Western Gas & Fuel & C. E. Lange—Adams 5 ..... gas

Wells completed 3
Gasser completed 2
Gas production 42,000,000
Dry and abandoned 1

SOMERSET FIELD

Witherspoon Oil—Pyron 5 ..... abd
Associated Petroleum—Caruthers 14 5
Associated Petroleum—Ernest 1 ..... 4½
Associated Petroleum—Koehler 1 15
N. A. Saigh—Frees 2 27
Associated Petroleum—Koehler 2 15
Grayburg Oil—Caruthers 28 10
Grayburg Oil—Bartung—B-23 10
Grayburg Oil—Hartung—B-21 10
Grayburg Oil—Caruthers 27 7
Associated Petroleum—Caruthers 15 11

Wells completed 11
Oil production 114
Dry and abandoned 1
Oil wells completed 10

MISCELLANEOUS

Bexar County—
W. L. McClanhan—Sodrok 3 2
W. L. McClanhan—Sodrok 4 2
Brewster County—
Green Valley Oil—Wilson 3 ..... abd
Caldwell County—
Sun Oil—Martindale 1 ..... abd
Fred Adams—Ellison 1 ..... abd
Sun Oil—Talley 1 ..... abd
DeWitt County—
Louis P. Schawe—Gohmert 1 ..... abd
Duval County—Wildcats—
Humble—Reiter-Foster—Kohler 4 20
Humble-Reiter-Foster—Kohler 5 ..... abd
O. W. Killam—Bruni—1 ..... abd
Humble O. & R.—Carrillo 1 ..... abd
Live Oak County—
Houston Oil—Cartwright 17 ..... abd
Lee County—
Bob Plunkett—No. 1 (Location) ..... abd
E. P. Edwards-Bob Plunkett—Wachemann 1 ..... abd
Medina County—
Ina Oil—Fingers 2 ..... abd
Wheless & Peters—Berger 1 ..... abd
Medina Oil—Taylor 10 ..... abd
Medina Oil—Taylor 12 ..... abd
Nueces County —
W. L. Pearson—Meaney 1 ..... gas
W. L. Pearson—Weil 1 ..... gas
San Patricio County—
W. L. Pearson—Cage 4 ..... gas
San Saba County—
Wilmot Oil—Rocky Pastures 1 ..... abd
Starr County—
Sterling & Swindle—Yzaguirre 1 ..... abd
Webb County—Wildcats—
Cin-Tex Petroleum—Peal 1 ..... abd
Zapata County—
Buffalo Erie Syndicate—Martinez 3 ..... abd
Earl K. Bateman—Vela 2 ..... abd
Magnolia Petroleum—Cuellar 4 ..... abd
The Texas Company—Jennings 5 ..... abd
O. W. Killam—Hinnant 4 ..... abd

Wells completed 29
Oil production 24
Gas production 85,000,000
Dry and abandoned 23
Gassers completed 3
Oil wells completed 3

ATASCOSA COUNTY
Wells Drilling
Caruthers-Grayburg Oil 29.
Rigs, 0; drilling 1.

BEXAR COUNTY
Rigs
Ernest, Grayburg Oil 36.
Caruthers, Associated Petroleum 16.
Ernest, Associated Petroleum 2.
Koehler, Associated Petroleum 3.
Wells Drilling
Frees, N. A. Saigh 3.
Sodrok, W. L. McClanhan 5.
Ackerman—A. R. Beal Trustee A-1.
Rigs, 4; drilling, 3; toal, 7.

BASTROP COUNTY
Wells Drilling
Goertz, The Texas Company 1.
Naumann, Neal A. Nelson 1.
Rigs, 0; drilling, 2; total, 2.

BEE COUNTY
Wells Drilling
———, D. Hewitt 1.
Hicks, Nichols & White 1.
Rigs, 1; drilling, 1; total, 2.

BROOKS COUNTY
Rigs
Lasater, The Texas Company 1.
Rigs, 1; drilling, 0; total, 1.

BREWSTER COUNTY
Wells Drilling
McIntyre, Van McPhail 1.
Rigs, 0; drilling, 1; total, 1.

CALDWELL COUNTY
Wells Drilling
Kelly, North & South 1.
Tiller, North & South 1.
Hardman, Detex Oil 1.
Davis, Joe Bruner 1.
Carter, Sutton & Smith 2.
Rigs, 0; drilling, 5; total, 5.

DEWITT COUNTY
Rigs
Bodlt, Edaourd Raymond 1.
Gohmert, Williams & Gates 1.
Smith, Empire Southern Oil 2.
Wells Drilling
Kaiser, McNell & Mathews 1.
Tully, Yoro Development 1.
Rigs, 3; drilling, 2; total, 5.

DIMMITT COUNTY
Wells Drilling
City Natl. Bank, Humble Oil & Ref. 1.
Rigs, 0; drilling, 1; total, 1.

FRIO COUNTY
Wells Drilling
Blackaller, P. A. Neilan 1.
Rigs, 0; drilling, 1; total, 1.

FAYETTE COUNTY
Wells Drilling
Marquardt, La. Fayette Oil 1.
Rigs, 0; drilling, 1; total, 1.

GOLIAD COUNTY
Wells Drilling
Pettus, Houston Oil 3.
Parks, Houston Oil 2.
Rigs, 0; drilling, 2; total, 2.

GONZALES COUNTY
Rigs
Billings, Kercheval Production 2.
Wells Drilling
Denman, Bristol Oil & Gas 2.
Preston, Martin Oil & Dev. 1.
Elder, E. Lee Moore 1.
Vaughan, Joe Bruner 1.
Rigs, 1; drilling, 4; total, 5.

GUADALUPE COUNTY
Wells Drilling
McAllister, H. H. Temple 1.
Weinert, F. A. Lain 1.
Rigs, 0; drilling, 2; total, 2.

HAYS COUNTY
Wells Drilling
Hohenburg, J. E. Rodgers 1.
Rigs, 0; drilling, 1; total, 1.

JACKSON COUNTY
Wells Drilling
White, Houston Gulf Gas 1.
Rigs, 0; drilling, 1; total, 1.

KARNES COUNTY
Wells Drilling
Szulwinski, Alamo Drilling & Leasing 1.
Rigs, 0; drilling, 1; total, 1.

KERR COUNTY
Wells Drilling
Leigh, Walker-Van Duyn 1.
Rigs, 0; drilling, 1; total, 1.

KINNEY COUNTY
Wells Drilling
Jim Clamp, W. A. Stephens 1.
———, Havelin Oil 1.
Rigs, 0; drilling, 2; total, 2.

KLEBERG COUNTY
Wells Drilling
Kivlin, Houston Oil-A. C. Erwin 1.
Flato, Carter-Walsh 1.
Kleberg Trustee, Humble Oil & Ref. 1, 3.
King, Humble Oil & Refining 1.
Dennett, Humble Oil & Refining A-3.
Kivlin, Humble Oil & Refining 1.
Rigs, 0; drilling, 7; total, 7.

LAMPASAS COUNTY
Rigs
Al Smith, California Interests 1.
Wells Drilling
Townsite, W. B. Abney 1.
Busch, Roeser & Pendleton 1.
Bunch, Davis & Bullock 1.
Faught, Smith and others 1.
Aynesworth, Fritz Fuchs Oil.
Rigs, 1; drilling, 5; total, 6.

LAVACA COUNTY
Wells Drilling
Steinman, Steinman Bros. 2.
Rigs, 0; drilling, 1; total, 1.

LEE COUNTY
Wells Drilling
Brenbaum, Bowers and others 1.
Sanders, M. O. Ricketts 1.
Rigs, 0; drilling, 2; total, 2.

LIVE OAK COUNTY
Wells Drilling
McNeil, Delta Oil 1.
Dunning, Houston Oil 1.
Sartain, Simmons Oil 4.
Roberts, J. W. Walton 1.
Rigs, 0; drilling, 4; total, 4.

MEDINA COUNTY
Wells Drilling
Chandler, Western Gas & Fuel-C. E. Lange 1.
Nixon, Witherspoon Oil 2.
Bader, Witherspoon Oil 1.
Nixon, Western Gas & Fuel-Medina Syndicate 1.
San Antonio Trustee, Marland Oil 3.
Medina Valley Farms, Schermernorn Oil 5.
Blocker, C. W. Simpson 1.
Redus, Witherspoon Oil 2.
Nixon, R. P. O'Brien 1.
Pohn, Feanell & Williams 2.
Taylor, Medina Oil 1.
Mumme, Johnson 1.
Mann, J. H. Gray 1.
Oeffingers, J. A. Swayze 1.
Zerr, Cecil Switzer 1.
Rothe, California-Medina 1.
Rigs, 0; drilling, 16; total, 16.

MAVERICK COUNTY
Wells Drilling
Indio, Ryan Consolidated Petroleum 1.
Whipff, Johnstone & Hout 1.
Chittim, Rycade Oil 1.
Sullivan, Rycade Oil 2.
Hanchin, Hume,Lindenborne 1.
Rigs, 0; drilling, 4; total, 4.

MILAM COUNTY
Rigs
King, Groneman Brothers 1.
Seelke, Noack Oil 6.
Shelton, Coffield & Hale 1.
Wells Drilling
Hicks, Kent-Middleton 5.
Seelke, Noack Oil 5.
Gunn, Kent-Middleton 1.
Hudson, Fritz Fuchs 3.
Dymke, Noack & Laning 1.
Alford, Coffield & Hale 1.
Rigs, 3; drilling, 6; total, 9.

McMULLEN COUNTY
Wells Drilling
Shiner, R. L. Taylor 1.
Shiner, Nelson & Woods 1.
Jacob, George Pickett 1.
Washburn, Sun Oil 1.
Franklin, Dodson and others 1.
Jacob, Houston Gulf Gas 5.
Kuykendall, George M. Ball 1.
Rigs, 0; drilling, 7; total, 7.

NEUCES COUNTY
Wells Drilling
Well, W. L. Pearson 2.

REFUGIO COUNTY
Wells Drilling
Heard-Receiver, Houston Gulf Gas 2.
Ryals, William F. Morgan 1.
Rooke, Houston Oil-Pratt Hewitt's 5.
Wilson Heard, Houston Gulf Gas-Moody 1.
Rooke, Houston Oil 2-A.
Fannie Heard, Houston Oil 10.
Adkins, Houston Gulf Gas 2.
Rose Rogers, William F. Morgan 2.
Rigs, 0; drilling, 8; total, 8.

SAN PATRICIO COUNTY
Rigs
Wilson, F. S. Smiley 1.
Wells Drilling
Cage, W. L. Pearson 6.
Mathis, Huber & Crawford 1.
McCambell, John Sigmond 7.
Rigs, 1; drilling, 3; total, 4.

SAN SABA COUNTY
Wells Drilling
Shaw, B. C. Graves 1.
McCarty, C. J. Williamson 1.
Blackard, George Pennington.
Rocky Pastrues, Wilmot Oil 2.
Rigs, 0; drilling, 4; total, 4.

VICTORIA COUNTY
Wells Drilling
Reeves Estate, R. M. Talbott 1.
Rigs, 0; drilling, 1; total, 1.

WILSON COUNTY
Wells Drilling
Haese, Thomas et al 1.
Rigs, 0; drilling, 1; total, 1.

WILLIAMSON COUNTY
Rigs
John Kubicek, Fritz Fuchs 1.
Fowler, Watercress Oil 1.
Rigs, 2; drilling, 0; total, 2.

ZAVALA COUNTY
Rigs
West, J. C. Pundt 1.
Rigs, 1; drilling, 0; total, 1.

MIRANDO DISTRICT
Rigs
Cole Field—Benevides, Cole Pet. 38, 45.
Survey 16, Ball, National Oil 1.
K. & S.—Lopez, Edward St. Albans 8.

Starr—Russell, Southern Exploration 2.
Wells Drilling
Cole—Benavides, Houston Oil D-1 S.
O'Hern & Seacord—Benavides, Magnolia Petroleum 2.
Benavides, Moody Oil 1.
Survey 4, Margarite, Ralston M. Talbott 1.
Survey 4, Singer, Humble Oil & Ref. 12.
Survey 400, Kohler, Humble-Reiter-Foster 8.
Survey 102, Welder-Woods, Humble Oil & Ref. 2.
Survey 316, Gray, Dixie Oil-Southern Crude 1
Henne, Winch & Fariss, Martinez, Magnolia Petroleum 27.
K. & S.—Holbien, K. & S. Corporation 57.
Alworth—Banks, Magnolia Petroleum 22.
Share 27, Jones, Holden and others 3.
Block 44, Holbien, Hamilton et al 1.
Starr-Garcia, Commonwealth Oil 1.
Salinas, Milham Corporation 2.
Schott—Garcia, Laredo Oil 12.
Albercas—Bruni, O. W. Killam 2, 3.
Reiser—Reister, Tubbs & Wright 1.
Kruger, W. O. Wheatley 3.
Carolina-Texas—dela Garza, D. J. Simmons 2
Webster, Daniel & Best 1.
Webster, Warde and others 1.
Barnsley, Houston Oil 1.
de la Garza, Barnsley Chicago 2.
Cole—Benavides, Cole Petroleum 43, 44.
Survey 4, Bruni, O. W. Killam 1.
Survey 43, Billings, O. W. Killam 1.
Zapata—Bustamente, J. H. Winch 1.
Cuellar, Kilam-Duggan 6.
Martinez, Harlingen Oil & Gas 5.
Rigs, 5; drilling, 32; total, 37.

TEXAS PANHANDLE

Summary of Rigs and Wells Drilling May, 1927

County—	Rigs	Drlg.	S.D.	Ttl.
Carson	2	32	3	37
Gray	8	23	6	37
Hutchinson	29	110	38	177
Wheeler	3	9	9	21
Miscellaneous	4	20	30	54
Totals May	46	194	86	326
Totals April	51	245	85	381
Difference	5	51	1	55

Summary of Completed Wells April, 1927

County—	Comp.	Prod.	Dry	Gas
Carson	24	7,149	0	1
Collingsworth	1	0	1	0
Gray	13	7,568	0	0
Hutchinson	40	15,815	1	0
Moore	1	0	0	1
Wheeler	11	2,242	2	2
Totals May	90	32,774	4	4
Totals April	110	27,080	7	15
Difference	20	5,694	3	11

TEXAS PANHANDLE COMPLETIONS
CARSON COUNTY

E. F. Bryan, Champlin Ref. Co. 1 30
E. F. Bryan, Champlin Ref. Co. 3 .. 100
E. F. Bryan, Champlin Ref. Co. 4 .. 75
E. F. Bryan, Champlin Ref. Co. 5 .. 25
M. P. Co Fee-B, Empire G. & F. 1 120
Co. 1 120
E. F. Bryan, McMan Oil & Gas Co. 6 175
E. F. Bryan, McMan Oil & Gas Co. 7 240
E. F. Percival, McMan Oil & Gas Co. 2 600
E. F. Bryan, Nunn & McAuley 5.... 400
E. F. Bryan, Nunn & McAuley 6 150
F. E. Percival, Osborne et al 1..... 150
J. W. McConnell, Parks et al 1 305
J. W. McConnell, Prairie Oil & Gas Co. 4-A 2640
J. W. McConnell, Prairie Oil & Gas Co. 1 175
F. E. Percival, Prairie Oil and Gas Co. 1 150
F. E. Percival, Prairie Oil and Gas Co. 2 85
Burnett Est., Republic Prod. Co. 1 .. 150
E. F. Bryan-B, Roxana Petroleum Corp. 2 .... gas
Jordan & Brown, Roxana Petroleum Corp. 1 75
H. Schaffer, Skelly Oil Co. 2 907
H. Schaffer, Skelly Oil Co. 3 395
H. Schaffer, Skelly Oil Co. 4 102
Jordan Brown, White Deer Oil Co. 2 75

Wells completed 24
Production 7149
Dry 0
Gas 1
Gas Production 10,000,000

COLLINGSWORTH COUNTY

M. Johnson, Duke & Langford 1 .... dry

Wells completed 1
Dry 1

GRAY COUNTY

W. C. Archer, Empire Gas & Fuel Co. 1 399
J. M. Saunders, Gulf Prod. Co. 1 3247
Binkley, Humble Oil & Ref. Co. 3 .. 905
T. B. Raggard, Humble Oil & Ref. Co. 1 67
Worley & Reynolds, Prairie Oil & Gas Co. 8 75
Davis, Pure Oil Co. 2 110
Davis, Pure Oil Co. 3 60
Davis, Pure Oil Co. 4 50
Back, Travis 1 435
Worley & Reynolds, Wilcox-Pampa Oil Co. 22 300
Worley & Reynolds, Wilcox-Pampa Oil Co. 24 720
Worley & Reynolds, Wilcox-Pampa Oil Co. 25 780
Worley & Reynolds, Wilcox-Pampa Oil Co. 26 420

Wells completed 13
Production 7568

HUTCHINSON COUNTY

Yake, Anderson & Pritchard 1 20
H. E. Smith et al, Cockrell-McIlroy Oil Co. 5 50
E. Cockrell, Dixon Creek Oil Co. 1 .. 560
H. E. Smith et al, Dixon Creek Oil Co. 41 150
J. A. Whittenburg, Goldelline Oil Co. 3-A 200
E. B. Johnson et al, Gulf Production Co. 16 172
E. B. Johnson et al, Gulf Production Co. 19 122
J. T. Hodges-A, Gulf Prod. Co. 2 .. 85
Whittenburg, Gulf Prod. Co. 6-E .... dry
H. E. Smith et al, Dan A. Japhet 7 .. 400
Johnson Bros., Kistler Oil Co. 4 250
E. Cockrell, McIlroy Oil Co. 3 7800
E. Cockrell, McMan Oil & Gas Co. 2 .. 600
Garland, Phillips Petroleum Co. 1 350
J. J. Hodges, Phillips Petroleum Co. 1 100
Johnson Bros.-Easter, Phillips Petroleum Co. 1 100
Johnson Bros.-Graham, Phillips Petroleum Co. 1 100
J. J. Perkins-Martin, Phillips Petroleum Co. 14 300
J. A. Whittenburg-Elra, Phillips Pet. Co. 13 1020
J. A. Whittenburg-Haines, Phillips Pet. Co. 3 300
J. A. Whittenburg-Patsburg, Phillips Pet. Co. 7 75
J. A. Whittenburg-Patsburg, Phillips Pet. Co. 8 300
J. A. Whittenburg-Patsburg, Phillips Pet. Co. 10 150
J. A. Whittenburg-Patton, Phillips Pet. Co. 31 50
J. A. Whittenburg-Patton, Phillips Pet. Co. 21 50
J. A. Whittenburg-Patton, Phillips Pet. Co. 23 300
J. A. Whittenburg-Ruben, Phillips Pet. Co. 1 150
Johnson Bros., Prairie Oil & Gas Co. 42-A 175
Johnson Bros., Prairie Oil & Gas Co. 51-A 226
Johnson Bros., Prairie Oil & Gas Co. 62-A 75
Johnson-Bros.-C, Prairie Oil & Gas Co. et al 8 10
M. Whitley, Prairie Oil & Gas Co. 11 40
W. S. Christian, Heywood, W. Scott 2 5
Trahan Bros.-Cunningham, Skelly Oil Co. 5 50
H. E. Smith et al, Skiatex Oil Co. 8 .. 250
H. E. Smith et al-A, Spring Creek Oil Co. 1 100
H. E. Smith et al, Sunburst Oil Co. ..4 200
H. E. Smith et al, Swinney et al 1 .. 100
W. L. Kingsland, Travelers Oil Co. 4 .. 220
Johnson Bros.-Montgomery, White Eagle Oil & Ref. Co. 3 650

Wells completed 40
Production 15815
Dry 1

MOORE COUNTY

Kilgore, Humble Oil & Ref. Co. 1 .. gas

Wells completed 1
Gas 1
Gas production 10,000,000

WHEELER COUNTY

J. H. Jackson, Continental Oil Co. 2 .. dry
W. E. Bentley, Gibson Oil Co. 3 236
Alexander, Lone Star Gas Co. 1 .... gas
Linkley, Lone Star Gas Co. 1 ..... gas
J. A. Worley, Magnolia Pet. Co. 1.. 40
W. E. Curlee, Mid-Kansas Oil and Gas Co. 3 90
J. H. Jackson, Northtex Oil Co. 1 .. 210
J. A. Clark, Piney Oil Co. 2 ..... dry
W. E. Bentley, The Texas Co. 1 666
Noah Smith, The Texas Co. 2 30
W. E. Bentley, Tidal Oil Co. 2 970

Wells completed 11
Production 2242
Dry 2
Gas 2
Gas production 36,000,000

CARSON COUNTY
Rigs and Wells Drilling

H. Schafer, Skelly Oil Co. 5.
M. P. Co. Fee, The Texas Company 1.
Wells Drilling
Burnett Est., American Refining Co. 6.
Burnett-B, Empire Gas & Guel Co. 1.
Burnett-C, Empire Gas & Fuel Co. 1.
M. P. Co. fee-A, Empire G. & F. 2, 3, 4.
John Dees, Gamble & Co. 1.
Burnett, Gulf Prod. Co. 21.
T. L. Noel, Gulf Prod. Co. 5.
F. E. Percival, Hughes Dev. Co. 2.
Fee No. 244, Magnolia Petroleum Co. 2, 3.
E. F. Bryan, Marland Oil Co. 3.
Burnett Est.-J, Marland Oil Co. 1.
C. R. Garner, Marland Oil Co. 2, 3, 4.
E. F. Bryan, Marston Oil Co. 2.
T. L. Noel, Marston Oil Co. 1.
E. F. Bryan, McMan Oil & Gas Co. 8.
T. J. Noel, McMan Oil & Gas Co. 2.
E. S. Polling, Navajo Oil Co. 1.
J. L. Noel, Parks et al. 2.
E. T. Bryan, Prairie Oil & Gas Co. 1*, 2*.
J. W. McConnell (Marland) Prairie Oil & Gas Co. 1, 2.
E. E. Bryan-C, Roxana Petroleum Co, 2.
C. R. Garner, Roxana Petroleum Corp. 3, 4.
H. S. Schaffer, Skelly Oil Co. 5.
E. Cooper, Stubblefield et al. 1.
M. C. Burnett, The Texas Company 6.
Burnett Est., The Texas Company 10.
J. C. McConnell, The Texas Company 1.
J. W. Eller, Vitek Oil Co. 1*.
C. G. Garner, Vitek Oil Co. 1.
Rigs, 2; wells drilling, 32; wells shut down, 3; totals, 37.

GRAY COUNTY
Rigs

Combs & Worley, Atlantic Oil Prod. Co. 1.
J. M. Patton, British American Oil Co. 1.
D. W. Osborne, Jack Doyles 1.
E. J. Case, Edwards et al. 1.
Merten Bros., Magnolia Pet. Co. 18.
J. D. Barrett, Magnolia Petroleum Co. 1.
L. C. McConnell, Petroleum Exploration Co. 1.
Merten Brothers-A, Prairie Oil & Gas Co. 8.
C. W. Bradford, J. Williams et al. 1.
Wells Drilling
Turneau, Archer, Blake et al. 1*.
Crews, Amos et al. 1.
C. W. Bradford, Bay Shore Oil Co. 1*.
J. E. Meers, British-American Oil Co. 1*.
J. E. Williams, Cole Oil & Gas Co. (was Magdolene Oil Co.) 1.
J. E. Cubine, Empire Gas & Fuel Co. 1.
J. F. Meers, Empire Gas & Fuel Co. 1.
J. J. Wells, Empire Gas & Fuel Co. 1.
Webb, Empire Gas & Fuel Co. 1.
Colebank-Morse, Gladis Gray, 1 (was Foster et al. No. 1 G. Cutcank).
Herndon, Gray County Petroleum Co. 1*.
A. Chapman, John G. Lane 1.
Chapman, Neudigate et al. 1*.
W. R. Campbell, Pampa Oil Co. 1.
Mary Leopold, Pampa Petroleum Co. 1.
Worley & Reynolds, Prairie Oil & Gas Co. 9.
Davis, Pure Oil Co. 5, 6.
Johnson, Purple Sage Oil Co. 1.
Mrs. Hopkins, Riley & Heck 1.
M. Ruselby, Rensoul Pet. Co. (was Salisbury & Reynolds) 1.
G. Cole, C. B. Shafer 1
Worley & Reynolds, Sun Oil Co. 1.
J. B. Barrett, The Texas Company 1.
Saunders, The Texas Company 3.
Combs & Worley, Wilcox-Pampa Oil Co. 3.
Worley & Reynolds, Wilcox-Pampa Oil Co. 18, 23, 27.
Rigs, 8; wells drilling, 23; wells shut down, 6; totals, 37.

HUTCHINSON COUNTY
Rigs

William Yake, Anderson & Pritchard 2.
Johnson Bros., Atlantic Oil Prod. Co. 2.
E. Cockrell, Cockrell-McIlroy Oil Co. 2, 1-K.
H. E. Smith et al., Currie & Holmes 1.
H. E. Smith et al., Dixon Creek Oil Co. 43, 44, 46, 47.
J. F. Weatherly, Fly Blackburn 3.
J. Q. Boon, Golden Eagle Oil Corp. 1.
E. Cockrell, Laine et al. 1.
H. E. Smith et al., Lenix Oil Co. 2.
E. Cockrell, McIlroy Oil Co. 11, 1-B.
E. Cockrell, McIlroy et al. 1, 2.
Johnson Bros., Minnehoma Oil Co. & Kistler 4, 5.
Johnson Bros.-Williams, Phillips Petroleum Co. 5.
J. J. Perkins-Martin, Phillips Pet. Co. 17, 18.
J. A. Whittenburg-Tinnie, Phillips Pet. Co. 11.
J. A. Whittenburg, Phillips Petroleum Co. and Coble Oil Co. 31.
Lee Bivins, Phillips Petroleum Co. and White Eagle Oil & Ref. Co. 1.
J. M. Sanfard, Prairie Oil & Gas Co. 2.
Johnson Bros., Southwestern Oil & Development Co. 6.
E. Cockrell, The Texas Company 2.
W. L. Kingsland, J. D. Ward 2.
Wells Drilling
J. M. Sanfard, Alamoso Oil Co. 1.
Ida Ingerton, Amarillo Oil Co. 1*.
J. F. Weatherly, American Refining Co. 7.
J. M. Sanford, Antelope Creek Oil Co. 2.
J. E. Pritchard-A, Barnsdall Oil Co. 1.
Sanford, Berryman Oil Co. 1.
J. F. Works, Big Coach Oil Co. 1.
Johnson Bros., Brooklins et al. 2*.
J. M. Sanford, Canadian River Oil Co. 1.
T. D. Lewis, Cable Development Co. 1*.
E. Cockrell, Cockrell-McIlroy Oil Co. 3.
Johnson, Conklin et al. 1*.
Johnson Bros., Delmar Oil Co. 4*.
Johnson Bros., Derby Oil Co. et al. 8*.
Johnson Bros.-A, Derby Oil Co. et al. 2, 4.
Johnson Bros., Devonian Oil Co. 7.
E. Cockrell, Diamond Oil Co. 1.
H. E. Smith et al., Dixon Creek Oil Co. 1-K.
Jasper, Dominion Oil Co. 1.
Johnson Bros., Dumas et al. 1*.
Johnson Bros.-B, Empire Gas & Fuel Co. 7*.
E. Cockrell, First National Oil Co. 1.
J. A. Whittenburg, Goldelline Oil Co. 4.
J. M. Sanford, Fordan et al. 1*.
Johnson Bros., Gowland et al. 1.
Lee Bivins, Great Plains Oil Co. 1.
Kingland, Great Plains Oil Co. 1.
T. D. Lewis, Great West Petroleum Co. 1*.
Sanford, Gulf Production Co. 2.
E. Cockrell, Herrogan Oil Co. 1, 2.
Johnson Bros., Kelly Petroleum Co. 1.
J. M. Sanford-B, Marland Oil Co. 1.
Johnson Bros., Manhattan Oil Co. 2.
Carver, Marland Oil Co. 1.
E. Cockrell, McIlroy Oil Co. 3*, 4, 10*.
E. Cockrell-Martin, McMan Oil & Gas Co. 1, 2.
J. M. Sanford, McMan Oil & Gas Co. 1.
J. M. Sanford, McMillan Oil Corp. 1, 2.
Johnson-Bros., Midwest Exploration Co. 6.
J. A. Whittenburg, Midwest Exploration Co. 7*.
J. A. Whittenburg-Wilson, Midwest Exploration Co. 2.
H. E. Smith et al., Midwest Exploration Co. 9.
E. Cockrell, Mudge Oil Co. 2.
Cockrell, Navajo Oil Co. 1.
J. M. Sanford, Oil Operators Trust Co. 1.
Luginbyhl Brothers, Panfield Oil Co. 1*.
J. M. Sanford, Paramount Oil Co. 2.
Johnson Bros., Peterson et al. 1*.
Johnson Bros.-Cruso, Phillips Pet. Co. 1*.
Johnson Bros.-Dave, Phillips Pet. Co. 2.
Johnson Bros.-Dorsett, Phillips Pet. Co. 4.
Johnson Bros.-Graham, Phillips Pet. Co. 6.
Johnson Bros.-Walling, Phillips Pet. Co. 2, 3.
Johnson Bros.-Wiley, Phillips Pet. Co. 1*.
Johnson Bros.-Williams, Phillips Pet. Co. 4.
J. Kingsland, Phillips Petroleum Co. 3.
J. Kingsland-Gibson, Phillips Pet. Co. 2.
J. Kingsland-Lansing, Phillips Pet. Co. 5.
J. M. Sanford-McMillan, Phillips Pet. Co. 1.
J. M. Sanford-Midgett, Phillips Pet. Co. 1.
J. A. Whittenburg-Burg, Phillips Pet. Co. 8.
J. A. Whittenburg-Elra, Phillips Pet Co. 3, 8*, 11, 12, 14, 15.
J. A. Whittenburg-Patsburg, Phillips Pet. Co. 9, 11, 12, 13.
J. A. Whittenburg-Patton, Phillips Pet. Co. 16, 17, 18, 19, 21, 22.
J. A. Whittenburg-Tinnie, Phillips Pet. Co. 5, 7, 8*, 9, 10.
J. A. Whittenburg, Phillips Pet. & Coble Oil Co. 22*, 28*, 29, 30.
J. T. Hodges-Godling, Phillips Pet. Co. 2*.
J. J. Perkins-George, Phillips Pet. Co. 7.
J. J. Perkins-Martin, Phillips Pet. Co. 16, 16.
Yake, Phillips Petroleum Co. 1.
W. B. Haile, Pole Cat Oil Co. 1*.
Johnson-A, Prairie Oil & Gas Co. 28, 31*, 48, 52*, 53*.
Johnson-A, Prairie Oil & Gas Co. 54*, 55*, 56*, 57*, 58, 59*, 60, 61*, 63, 64, 65, 66, 67, 68.
Diana Shaw, Prairie Oil & Gas Co. 3.
M. Weatherly, Prairie Oil & Gas Co. 4, 12*.
J. M. Sanford, Prairie Oil & Gas Co. 1.
Cal Merchant, Prairie Oil & Gas and Vacuum Oil Co. 1.
Johnson Bros.-B, Pure Oil Co. 5.
Johnson Bros., Red Hill Pet. Co. 1.
H. E. Smith et al.-A, Relief Oil Co. 3.
E. Cockrell, Riley et al. 1.
Johnson Bros., Rock Creek Oil Co. 1.
J. M. Sanford, Skelly Oil Co. 1.
Mrs. R. A. Jameson, Skyrocket Oil Co. 1.
Johnson Bros., Southwest Oil & Dev. Co. 5.
H. E. Smith et al., Spurmack Drilling Co. 1*.
J. F. Weatherly, Spurmack Drilling Co. 1*.
E. Cockrell, Sullivan Oil Co. 1.
J. A. Whittenburg, Summit Oil Co. 4.
H. E. Smith et al., Sunburst Oil Co. 3.
Johnson, Sweeney et al. 1*.
R. F. Cheatam, Swinney et al. 1*.
E. Cockrell, The Texas Company 1.
T. D. Lewis, Timms Oil Co. 1.
H. E. Smith et al., Triangle Oil Co. 6.
Johnson Bros., U. S. Oil Corp. 1*.
W. F. Allen, Vitek Oil Co. 1*.
H. E. Smith et al., J. D. Ward 1*.
E. Cockrell, Wells et al. 1.
E. Cockrell, White et al. 1.
E. Cockrell, White & Lane 1.
H. E. Smith et al., Wiles & Keech 1.
J. M. Sanford, Williams et al. 1.
Rigs, 29; wells drilling, 110; wells shut down, 38; totals, 177.

WHEELER COUNTY
Rigs

W. E. Bentley, Gibson Oil Co. 5.
J. H. Jackson, World Oil Co. 3.
Wells Drilling
E. E. Carlton, American Refining Co. 1*.
G. A. Morgan, Angus et al. 1*.
S. L. Lewis, Boyles & Johnson 1.
Sam Pakan, Dobbs et al. 1.
S. H. McDonald, Foster et al. 1*.
W. E. Bentley, Gibson Oil Co. 2, 4, 7.
W. E. Bentley, Marland Oil Co. 2*.
M. Mertel, J. J. Rock 1*.
T. C. Jones, J. Rock Co. 1.
C. W. Porter, J J. Rock 1*.
P. J. Sorenson, Smith, Brady et al 1*.
B. P. Sewell, The Texas Company 1.
W. E. Bentley, Tidal Oil Co. 1.
W. J. Johnson, Wheeler County Oil & Gas Co. 1*.
P. J. Sorenson, Wheeler Oil & Gas Co. 1.
Woodley Sr., W. L. Woodley Jrs. 1.
F. E. Shelton, Watchorn Oil & Gas Co. 1*
Rigs, 3; wells drilling, 9; wells shut down, 9; totals, 21.
Armstrong County—
Well Drilling
J. P. Rock, United Oil & Trust Co. 1*.
Briscoe County—
Well Drilling
J. C. Anderson, C. S. Rice 1.
Castro County—
Rig
M. Slemons, Colorado Oil & Ref. Co. 1.
Wells Drilling
Clements, Gulf Prod. Co. 1.
J. I. Crum, Mystery Oil Co. 1*.
Childress County—
Wells Drilling
Mrs. Gibens, Brookins et al. 1*.
B. P. Smith, C. L. Sloane et al. 1.
Collingsworth County—
Wells Drilling
Fee, Wischkamper, 1*.
Dallam County—
Wells Drilling
Fee, James et al. 1.
Capitol Syndicate, Harry Skelly et al. 1*.
Capitol Syndicate, Marland Oil Co. 1*.
Deaf Cmith County—
Wells Drilling
Mrs. R. A. Hindley, Julian & DeGrace 1*.
Barrett, Red Hill Oil Corp. 1*.
Donley County—
Well Drilling
F. E. Harrington, A. T. Drilling Co. 1.
Hall County—
Well Drilling
Owens, Seifert et al. 1*.
Hartley County—
Wells Drilling
Frances Farwell, Amerada Pet. Corp. 1*.
Lyman & Balfour, Deep Rock Oil Co. 1*.
J. B. Irving, Eslick et al. 1.
Frances Farwell, J. E. McKanna 1.
J. M. Shelton Est., J. E. McKanna 1*.
Hemphill County—
Wells Drilling
Worley & Reynolds, Sun Oil Co. 1.
J. C. Isaacs, A. J. Calhoun 1*.
Schaller Est., Hoover et al. 1*.
Fee, Hoover et al. 1.
Lipscomb County—
Wells Drilling
Mrs. H. D. May, Camp Creek Oil Co. 1.
A. Barton, McCorkle 1.
C. W. Jones, Smith, Kinsley & Ruby 1*.
Moore County—
Rigs
O. E. Gober, Prairie Oil & Gas Co. 2.
Bober, Prairie Oil & Gas and Shamrock 2.
Wells Drilling
Terry Thompson, Amarillo Oil Co. 2*.
H. M. Beauchamp, Douglas Oil Co. 1.
J. T. Sneed, Jr., Marland Oil Co. 1.
Reeder, Morton & Co. 1.
Sneed, Moore County Oil Co. 1.
John Lowery, Shadler Brothers 1*.
Armstrong & Bryd, Skelly Oil Co. 1*.
Ochiltree County—
Wells Drilling
Stickler, W. G. Burton 1.
R. E. Wamble, Hamilton et al 1*.
R. H. Moore, McCorkle Pipe Line Co. 1*.
Weinett, McCorkle 1*.
Bowden, Standard Dev. Co. 1*.
Oldham County—
Well Drilling
Landergin, Prairie Oil & Gas Co. 1*.
Parmer County—
Wells Drilling
Farwell, Humble Oil & Refining Co. 1*.
Potter County—
Wells Drilling
Townsite, Greater Amarillo Pet. Co. 1*.
J. A. Jones, Farmer Oil & Gas Co. 1*.
W. H. Bush, Kelmey Oil Co. 1.
Randall County—
Well Drilling
Campbell & McIlroy, Patterson et al. 1*.
Roberts County—
Wells Drilling
Mrs. H. Ledrick & Sons, Big Bend Co. 1.
T. S. Jones, Gibson Oil Corp. 1.
Gill, Murphy et al. 1*.
Hamilton, Chanlee Page et al. 1*.
Sherman County—
Rig
Price & Fuqua, Phillips Petroleum Co. 1.
Wells Drilling
Bivins, Gibson Oil Co. 1.
S. F. Flores, Hagy & Harrington 1*.
Rigs, 4; wells drilling, 20; wells shut down, 30; total, 54.

NORTH AND WEST TEXAS

Summary of Rigs and Wells Drilling May, 1927

West Texas— County—	Rigs	Drlg.	S.D.	Ttl.
Crane	21	37	0	58
Crockett	2	2	7	11
Howard	2	14	9	25
Jones	1	10	11	22
Mitchell	3	10	1	14
Reagan	0	12	5	17
Upton	0	21	10	31
Miscellaneous	19	77	51	147
Totals	48	183	94	325
North Central Texas—				
Archer	4	17	6	27
Brown	8	47	12	67
Callahan	3	15	8	26

Coleman	1	9	18	28
Cooke	3	21	2	26
Eastland	3	35	6	44
Jack	0	8	3	11
Montague	0	17	8	25
Shackelford	4	34	5	43
Stephens	1	12	1	14
Throckmorton	2	8	3	13
Wichita	2	20	5	27
Wilbarger	3	24	10	37
Young	6	28	7	41
Miscellaneous	4	19	24	47
Totals	44	314	118	476
Grand totals May	92	497	212	801
Grand totals April	84	476	291	851
Difference	8	21	79	50

Summary of Completed Wells April, 1927

West Texas— County—	Comp.	Prod.	Dry	Gas
Cochran	1	0	1	0
Concho	2	0	2	0
Crane	14	6,671	1	0
Crockett	2	0	2	0
Fisher	6	0	6	0
Howard	19	967	1	0
Jones	9	170	7	0
Mitchell	5	353	1	0
Pecos	7	13,853	4	0
Reagan	14	3,314	1	0
Taylor	3	0	3	0
Terrell	1	0	1	0
Upton	7	2,846	1	0
Winkler	1	1,006	0	0
Total West Texas	91	29,180	31	0
North Central Texas—				
Brown	76	19,289	28	0
Callahan	15	433	11	0
Archer	38	1,805	11	0
Clay	6	67	3	0
Coleman	13	0	12	1
Cooke	12	2,378	3	0
Eastland	18	1,262	8	2
Grayson	1	0	1	0
Montague	9	253	3	1
Palo Pinto	3	0	1	2
Shackelford	17	143	13	0
Stephens	10	16	5	2
Throckmorton	7	1,765	4	1
Wichita	29	546	14	0
Wilbarger	25	1,242	7	0
Young	27	4,729	10	0
Total North Texas	306	33,928	133	9
Totals May	397	63,108	164	9
Totals April	454	42,864	179	11
Difference	57	20,244	15	2

NORTH CENTRAL TEXAS COMPLETIONS

ARCHER COUNTY

Jones, Abercrombie & Roxana 1 ..... dry
Haley Est., Barnsdall Oil Corp. 1 .... dry
Farmer, Boller et al. 1 ..... dry
Turbeville, L. T. Burns 9 110
Turbeville-F, Burns et al. 1 ..... dry
Campbell, C. P. Burton 1 ..... dry
Abercrombie & Taylor, Continental Oil Co. 11 30
Wilson, Continental Oil Co. & Perkins & Cullum 1 70
Wilson, Continental Oil Co. & Perkins & Cullum 2 47
L. T. Wilson, Gulf Prod. Co. 1 134
Prideaux, Kell & Kruger 6 40
Prideaux, Kell & Kruger 7 5
Turbeville, Kruger & Staley 2 200
Wilson, Navarro Oil Co. 2 ..... dry
Miller-B, Pace & Nelson Holding Co. 5 24
Wilson, Pace & Nelson Holding Co. 1 .. 10
Miller-B, Pace & Nelson Holding Corp. 5 35
Prideaux, Park Pet. Co. Inc. 1 50
Prideaux, Park Pet. Co. Inc. 4 20
Prideaux, Park Pet. Co. Inc. 6 60
Turbeville-D, Pet. Prod. Co. 6 340
Walsh, Roberts Oil Corp. & Hunt & Seigler 1 ..... dry
Abercrombie & Taylor-B, Roxana Pet. Corp. 5 14
Wilson, Royal Pet. Co. 3 113
Wilson, Royal Pet. Co. 4 200
Prideaux, Shappell Oil Co. 11 7
Prideaux, Shappell Oil Co. 12 7
Wilson, Stump et al. 1 ..... dry
Moss, Successful Oil Co. 1 ..... dry
Turbeville-B, United Producers Co. & Petroleum Prod. Co. 70
Prideaux, Western Oil Corp. 2 55
Prideaux, Western Oil Corp. 4 60
Prideaux, Wilson & Russell 9 30
Prideaux, Wilson & Russell 10 20
Prideaux, Wilson & Russell 11 30
Abney, Young et al 4 ..... dry

Wells completed 38
Production 1805
Dry 11

BROWN COUNTY

Armstrong, Anderson et al. 1 ..... dry
Cason, Bowers et al. 4 ..... dry
Jones, Burton et al. 1 ..... dry
Stone, Cranfill & Reynolds 1-B 15
Cook & Son, Dallas Gas Co. 1 ..... dry
Newton, Empire Gas & Fuel Co. 2 .. dry
Newton, Florence Oil Co. 4 10
White, Gibson Oil Corp. 1 ..... dry
White, Haskell et al. 1 ..... dry
Capps, Peck Hendricks et al. 1 ..... dry
Miller, Hines & Hines 1 ..... dry
Shore, J. K. Hughes 5 500
Shore, J. K. Hughes 9 550
Shore, J. K. Hughes 9 1500
Shore, J. K. Hughes 10 550
Shore, J. K. Hughes 12 1000
Shore, J. K. Hughes 23 1200
J. H. Fry, Humble Oil & Ref. Co. 5 .. dry
Hickman, Humble Oil & Ref. Co. 14 .. 540
Sorrells, Hurley Oil Co. 1 ..... dry
Shore, McKenna et al. 3 225
Shore, McKenna et al. 6 550
Shore, McKenna et al. 9 250
Shore, McKenna et al. 11 1800
Shore, McKenna et al. 13 300
Shore, McKenna et al. 14 250
Wooldridge, McLester Oil Co. 21 30
Bull, McIntire et al. 1 ..... dry
Byler, May, Ward et al. 1 ..... dry
Sheffield, Monroe Prod. Co. 1 ..... dry
Baugh, Moonelea Oil Co. 1 ..... dry
Hamilton, Nichols et al. 1 6
Seawalt, Owens et al. 1 ..... dry
Turner, Pandem Oil Co. 1 ..... dry
Rickman, Phillips Pet. Co. 5 98
J. H. Fry, Rex-Pyramid Oil Co. 14 .. 50
J. H. Fry, Rex-Pyramid Oil Co. 15 .. 3
Sheffield, Richards 1 ..... dry
Pugh, Root et al. 3 15
Oden, Russell et al. 2 ..... dry
Brooks, Ryan et al. 2 ..... dry
Ellis, Selby Oil & Gas Co. 1 35
Byler, Shoup Jr. 4 45
John Byler, Shoup Jo. 7 ..... dry
Gaines, Simms Oil Co. 1 ..... dry
Shore, Sinclair Oil & Gas Co. 3 1539
Cross, Sorrells et al. 1 ..... dry
Morris, Southern Drilling Co. 1 ..... dry
Byler, The Texas Co. 1 90
Hickman, The Texas Co. 18 ..... dry
Lowe, The Texas Company 26 150
Lowe, The Texas Company 29 110
Lowe, The Texas Company 31 268
Lowe, The Texas Company 33 150
Lowe, The Texas Company 34 324
Lowe, The Texas Company 36 200
Lowe, The Texas Company 38 500
Lowe, The Texas Company 41 715
Lowe, The Texas Company 42 250
Lowe, The Texas Company 43 700
Lowe, The Texas Company 44 368
Lowe, The Texas Company 45 350
Lowe, The Texas Company 46 300
Lowe, The Texas Company 47 224
Lowe, The Texas Company 48 915
Lowe, The Texas Company 49 432
Shore, Tower & McKenna 8 305
Shore, Tower & McKenna 10 375
Moore, Wallace et al. 1 ..... dry
Shore, Wentz Oil Corp. 12 40
Shore, Wentz Oil Corp. 13 160
Shore, Wentz Oil Corp. 14 45
Shore, Wentz Oil Corp. 15 425
Shore, Wentz Oil Corp. 16 832
Turner, Westbrook et al. 1 ..... dry
Starkey, Zock & McCamey 1 ..... dry

Wells completed 76
Production 19289
Dry 28

CALLAHAN COUNTY

Bennett-Booth, Brannon & Murray 1 .. dry
Gorsuch, Deep Rock Oil Co. 1 ..... dry
Irvin, Ingerlight et al 1 ..... dry
Hall, Loweree et al. 1 ..... dry
Baum, Mook et al. 1-E 30
McDermott, Murchison et al. 1 ..... dry
Baum, Prairie Oil & Gas Co. 2 8
Young, Roeser & Pendleton 1 ..... dry
Alvord, Shadbolt & Creighton 1 ..... dry
Miller, Shaw et al. 3 ..... dry
Miller, Shaw et al. 4 300
Miller, Shaw et al. 5 95
Horn, Sweveland & Dill 1 ..... dry
Berry, Syndicate Oil Co. 1 ..... dry
Smart, Thompson & Loomis 1 ..... dry

Wells completed 15
Production 433
Dry 11

CLAY COUNTY

Douglas, Caldwell & Culbertson 1 ..... dry
Bowen, Eastern Petroleum Co. 1 ..... dry
Barry Jr., Empire Holding Co. 3 12
Barry Jr., Empire Holding Co. 4 30
Barry Jr., Empire Holding Co. 5 25
Lockridge, Lone Star Gas Co. 6 ..... dry

Wells completed 6
Production 67
Dry 3

COLEMAN COUNTY

Powell, Brown & Co. 1 ..... dry
Bowdey, Browning 1 ..... dry
Lowe, Evans et al. 1 ..... dry
Newsom, Gracey Bros. 1 ..... dry
Feveash, Hodge & Baker 1 ..... dry
Pfluger, Jewell & Sill 1 ..... dry
Halbert, Milham Corp. 1 ..... dry
Caton, Monroe Prod. Co. 1 ..... gas
Nance, Shields et al. 1 ..... dry
Godwin, Slick 1 ..... dry
Reaves, Taylor et al. 1 ..... dry
Sealey & Smith, Texon Oil & Land Co. 1 ..... dry
Thate, Urban 1 ..... dry

Wells completed 13
Production 0
Dry 12
Gas 1
Gas production 2,000,000

COOKE COUNTY

Dennis, American Ref. Co. 14 20
Kleiss, Camp & Heydrick Oil Operators Trust Co. 3 300
Chaffin, Fain-McGaha Oil Corp. 1 .. 38
Vestal, Fain-McGaha Oil Corp. 1 15
Evans, Green et al. 1 ..... dry
Dennis-B, Kewanee Oil & Gas Co. 1 .. 472
Koelzer, Lynch, Stahl et al. 1 230
Kleiss, Oil Operators Trust Co. 4 100
Hair, Shasta Oil Co. 1 ..... dry
Scofield & Leeper, Shubert Drilling Co. 1 ..... dry
Dennis, The Texas Company 1 403
Dennis, The Texas Company 2 800

Wells completed 12
Production 2378
Dry 3

EASTLAND COUNTY

Rosenquest, Adamson & Bearman 1 .. 60
Epper, Arnold et al. 2 ..... gas
Terrell, Barkley & Crotty 1 ..... dry
Jeffery, Burk-Greis Oil Co. 1 ..... dry
Collins, Cranfill & Reynolds 3-B ..... dry
Spencer, Cranfill & Reynolds 1 550
Bishop, Empire Gas & Fuel Co. 1 17
Duffer, Gholston 5 105
Parish, Gholston et al. 1 ..... dry
Higgins, Hickey & Haines 1 ..... dry
Webb, Hoffman & Page 1 8
Fee, Keyes et al. 1 ..... dry
Hazel, Livingston et al. 1 40
Thomas, Magnolia Pet. Co. 2 72
McAlliste, M. T. C. Oil Co. 1 410
Lyleria, Simms Oil Co. 1 ..... dry
Johnson, Teatsworth et al. 3 ..... gas
Lightfoot, Wilkins & Edwards 1 ..... dry

Wells completed 18
Production 1262
Dry 8
Gas 2
Gas production 4,250,000

GRAYSON COUNTY

Odell, Camp Oil & Gas & McCarty Oil Co. 1 ..... dry

Wells completed 1
Dry 1

MONTAGUE COUNTY

Howard, Arco Oil Co. 6 20
Rolls Est., Cato Oil Co. 14 24
Maddox, Fleming & Kimball 1 ..... gas
Keck-A, Pure Oil Co. 2 28
Maddox, Seigler et al. 2 60
Hutson, Stoneman & Staniforth 1 ..... dry
Easley, Superior Oil Co. 1 ..... dry
Gist-A, The Texas Company 1 56
Maddox-D, The Texas Company 12 65

Wells completed 9
Production 252
Dry 2
Gas 1
Gas production 21,730,000

PALO PINTO COUNTY

Hart, Dixie Drilling Co. 1 ..... gas
Williams, Roth & Faurot 1 ..... dry
Stuart, T. P. Coal & Oil Co. 153 ..... gas

Wells completed 3
Dry 1
Gas 2
Gas production 4,500,000

SHACKELFORD COUNTY

Davis, Amerada Pet. Corp. 3 ..... dry
Goodwin & Walker, Gwinnup et al. 1.. dry
Green, Gwinnup et al. 1-62 ..... dry
Reynolds, Hope Oil & Gas Co. 1-B.... dry
Sanders, Hughes et al. 1 ..... dry
Davis, Humble Oil & Ref. Co. 1 .... dry
Dyer, Magnolia Pet. Co. 1 ..... dry
Moore, Milham Corp. 6 10
Calvert, Moore 1 ..... dry
Wilson, Moore & Snebold 1 ..... dry
Ackers, Petitt et al. 1 ..... dry
Myers, Republic Prod. Co. 4 7
Moberly-12, Roeser & Pendleton 7-B .. dry
Lanes, Simms Oil Co. 2 10
Harvey, Simmons 2 116
Matthews, Tannehill Oil Co. 1-28 .... dry
Hill, World Oil Corp. 1 ..... dry

Wells completed 17
Production 143
Dry 13

STEPHENS COUNTY

Gardenshire, Conway Bros. 1 ..... gas
Stephens, Goodwin Drilling Co. 1 .... dry
Caty, Hopkins et al. 1 ..... dry
Glenn, Humble Oil & Ref. Co. 5 2
Bradshaw, Laucey et al. 1 ..... dry
Bradshaw, Lyman et al. 1 ..... dry
Chesley, Metedith & Thomas 1 ..... dry
Hill, Mid-Kansas Oil & Gas Co. 20 .. 10
Pratt, Texas Fidelity Oil Co. 9 ..... gas
Pierce, The Texas Company 14 4

Wells completed 10
Production 16
Dry 5
Gas 2
Gas production 7,750,000

THROCKMORTON COUNTY

Buchanan, Associated Pet. Co. 1 ..... gas
Parrott, Red Bank Oil Corp. 4 1750
Thomas, Cranfill & Reynolds 2 ..... dry
Mathews, Hoffer Oil Corp. 3 ..... dry
Graham, Humble Oil & Ref. Co. 3 .... dry
Cole, Red Bank Oil Co. 1 15
Graham, The Texas Company 1 ..... dry

Wells completed 7
Production 1765
Dry 4
Gas 1
Gas production 3,000,000

WICHITA COUNTY

Frank et al., Bridwell & Heydrick 1.. dry
Waggoner, C. H. Clark et al. 2 2
Waggoner, C. H. Clark et al. 3 ..... dry
Honaker, R. R. Clark et al. 2 ..... dry
Waggoner-C, Continental Oil Co. 2 .. 25
Henson, Continental & Maer & Staniforth 1 ..... dry
Ancell, Continental & Perkins & Cullum 1 ..... dry
Love, Cooper & McLaughlin 6 ..... dry
Kemp & Kempner, Empire Gas & Fuel Co. 1 87
Daume, Grayce Oil Co. 2 ..... dry
Daume, Grayce Oil Co. 3 ..... dry
State Land, Harry Hines 6 30
Honaker, Magnolia Pet. Co. 73 ..... dry
R. Ramming, Magnolia Pet. Co. 3 26
Waggoner, Mount et al. 1 13
Love, O'Donohoe & Gates 2 30
Chilson, John O'Neil 1 ..... dry
Mitchell, Pace et al. 2 ..... dry
Riley Griffin, Panhandle Ref. Co. 10 ... 70
Chilson, Petroleum Prod. Co. 1 ..... dry
Shallow, Love-B, Petroleum Prod. Co. 7 30
Proctor, Proctor Oil Co. 1 1
Marriott, The Texas Company 33 30
Waggoner, The Texas Company 2 46
Waggoner, The Texas Company 324 .. dry
Waggoner, The Texas Company 325 .. 4
Kemp & Kempner, Wilson Drilling Co. et al. 1 75
Cable Daume, A. T. Wolfe 2 80
Nitschke et al, Wolf & Son 1 ..... dry

Wells completed 29
Production 546
Dry 14

WILBARGER COUNTY

Wilbarger County, Atlantic Oil Prod. Co. 1 60
Seigler-Waggoner, Atlantic Oil Prod. Co. 5 162
Waggoner, Consolidated Oil Co. & J. S. Cosden 2 ..... dry
Waggoner, Consolidated Oil Co. & J. S. Cosden 3 38
Fluhman, Fain-McGaha Oil Corp, et al. 8 70
Waggoner, Fain-McGaha Oil Corp. 1 .. dry
Waggoner-F, Fain-McGaha Oil Corp. et al. 1 20
Waggoner-G, Fain-McGaha Oil Corp. et al. 1 ..... dry
C. F. Blackburn, Gulf Prod. Co. 3 .. 75
C. F. Blackburn, Gulf Prod. Co. 4 100
Waggoner-H, Humble Oil & Ref. Co. 19 106
Waggoner-M, Humble Oil & Ref. Co. 1 98
Piper, Magnolia Pet. Co. 11 ..... dry
Waggoner, Phillips Pet. Co. 3 71
Waggoner-D, Phillips Pet. Co. 17-A .. 19
Waggoner-H, Phillips Pet. Co. 10 57
Waggoner-S, Phillips Pet. Co. 1 158
Waggoner-X, Phillips Pet. Co. 1 ..... dry
Waggoner-CC, Phillips Pet. Co. 1 125
Waggoner—QQ, Phillips Pet. Co. 21 .. 11
Waggoner-TT, Phillips Pet. Co. 1 15
Waggoner-D, Roxana Pet. Corp. 3 50
Grab, The Texas Company et al. 1.... dry
Waggoner-A, Waggoner Ref. Co. 7.... 7
Waggoner, Waggoner Ref. Co. 8 ..... dry

Wells completed 25
Production 1242
Dry 7

YOUNG COUNTY

Farmer, Ablstrom et al 1 ..... dry
Groves, Bridwell & Heydrick 1 ..... dry
Christian, Christie et al 1 ..... dry
Craig, Cole et al 1 ..... dry
Benson, Continental Oil Co. and Francis 6 6
Morrison-A, Coones & Hotchkiss 1 ... 80
Cox, Golding & Cochran et al 1 40
Watson, Halmack Oil Co. 3 6
Morrison, Hester & Hawkins 1 ..... dry
Garvey, Jetter et al 1 ..... dry
Benson-A, Madden et al 1 ..... dry
Stewart, Moran et al 4 108
Stewart, Moran et al 5 100
Ware, Nash & Windrohr 1 25
McCluskey, Panhandle Ref. Co. 7 .... dry
McCluskey, Panhandle Ref. Co. 20 120
McCluskey, Panhandle Ref. Co. 17 600
Mathews, Panhandle Ref. Co. 9 ..... dry
Jack-A, Reed et al 4 49
Jack-B, Reed et al 5 30
Jack-C, Reed et al 1 200
Mathews, Reed et al 4 4
Brown, Riggs et al 1 10
Thomas, E. L. Smith 1 ..... dry
Fee, E. C. Stovall 1 2250
Donnell, Sun Oil Co. and T. P. Coal & Oil Co. 5 140
Donnell, T. P. Coal & Oil Co. 2 960

Wells completed 27
Production 4729
Dry 10

NORTH CENTRAL TEXAS RIGS AND WELLS DRILLING

ARCHER COUNTY

Rigs

Turbeville, Kruger & Staley 3.
Turbeville, Mount et al 1.
Lyles, Plains Prod. Co. 5.
Cowan Est., Bridwell & Heydrick 1.

Wells Drilling

Wilson, Atlantic Oil Prod. Co. 1.
McCrory-D, L. T. Burns 1.
Gose, Continental Oil Co. 60.*
Wilson, Continental Oil Co. and Perkins & Cullum 3.
Miller, Ferguson et al 1.*
Edwards, Graham et al 1.
Wilson, Gulf Prod. 2, 3.
Jackson, Jeffers & Jeffers 1.*
White, Jetter & Anderson 1.*
Miller-B, Pase & Nelson Holding Co. 6.
Turbeville-C, Petroleum Prod. Co. 7.
Wilson, Royal Pet. Co. 5.
Wilson-B, Royal Petroleum Co. 1.
Evans, Stidham & Thrasher 1.
Allen, Trahan et al 1.
Andrews, United Prod. Co. 1.
Andrews, Allday Oil Co. 1.
Taber, L. T. Burns 1.
Farmer, Ferguson et al 1.*
Ward, Gwynn & Roxana Pet. Corp. 1.
Wyatt, The Texas Company 1.
Farmer, Tidal Oil Co. 8.*

Rigs, 4; wells drilling, 17; wells shut down, 6; total, 27.

BROWN COUNTY

Rogs

Ellsberry, Canyon Oil Co. 6.
Shore, Gibson Oil Co. 5.
Shore, J. K. Hughes 33.
Lowe, The Texas Company 62, 64.
Shore, Wentz Oil Corp. 18, 19, 20.

Wells Drilling

Miller, Adamson & Bearman 1.
Armstrong, Anderson & Curry 1.
Willis, Barbara Oil Co. 6.
Dunn, Bedichek 1.*
Garnett, Bell et al 1.
Eubanks, Cooke et al 1.*
Pickett, Curry & Moore 5.
Boler, Ditto O Interest 1.
Williams, Empire Gas & Fuel Co. 1.
Smith, Forrest Oil Co. 3.
Lillie, Foulgher et al 1.
Shore, Gibson Oil Co. 6.
Brown, Gordon White et al 1.
Shore, J. K. Hughes 6, 13, 22, 24, 25, 26,* 34.
Hickman, Humble Oil & Ref. Co. 15.
Bell, Humphrey Brothers 1.
Willis, Inland Oil Co. 1.
Hickman, Kone Prod. Co. 2.
Shore, McKanna et al 12.
Kellar, Moorman et al 1.
Jones, Pitts et al 1.
Henson, Ramsey 3.
Pugh, Root et al 4.
Miller, Ross Drilling Co. 1.
Byler, Shoup, Jr., 16.
Rumph et al, Terrill & Morrisey 1.
Byler, The Texas Co. 3.
Lowe, The Texas Company 50, 51, 52, 53, 54, 58, 60, 63.
Lee, Thomas & Reynolds 1.
Byler, Jack Ward et al 1.
Shore, Wentz Oil Corp. 7,* 8,* 17.
Newton, West and H-Y Oil Co. 22.*
Shield-Maddox, Wilbern Brothers 1.
Hart, Advance Oil Co. 1.
Davis, Alford Oil Co. 2.*
Forbes, Alford Oil Co. 1.
Smith, Baker et al 1.
Flowers, Davis 1.
Hawkins, Davis C. H. 1.*
Bettis heirs, Ditto Oil Interests 1.*
Ferguson, French 1.*
Wright, Irwin et al 1.
McDaniel, Randall et al 1.*
Ratliff, Shoupp, Jr., 1.

Rigs, 8; wells drilling, 47; wells shut down, 12; total, 67.

CALLAHAN COUNTY

Rigs

Hobbs, Rhineheart et al 1.
Evans, Vacuum Oil Co. 1.
Ramsey, Valley Oil Co. 1.
Jackson-B, Beams & Kingwood 1.
Windham, Branch Brothers 1.*
Edwards, Brown Oil Co. 2.
McCoy & Hill, Cooke 1.
Ross, Dixie Drilling Co. 1.*
Johnson, Empire Gas & Fuel Co. 1.
Powell, Fros & Ross 1.*
Walker, Hill & West 1.*
Alexander, Humble Oil & Refining Co. 1.
Dawkins, Milham Corp. 1.
Warren, Milham Corp. 1.
Moore, Mission Dirling Co. 1.*
Boydston-A, Moore & Snebold 1.
Bennett-Booth, Navarro Oil Co. 2.
McDermott, Payne et al 1.
Biggerstaff, Porter Dev. Co. 1.
French, Phinehart et al 1.
Cutbirth, Richarson Brothers 1.*
McWorther, Seaboard Oil & Gas Co. 1.*
Hall, Shadbolt & Creighton 1.*
Terrell, Shirley 1.
Gilliland, Starr & Kiser 1.
Clifford, The Texas Company 14.

Rigs, 3; wells drilling, 15; wells shut down, 8; total, 26.

COLEMAN COUNTY
Rigs
Morris, Midwest Exploration Co. 2.
Wells Drilling
Strozier, Broderick & Calvert 1.
Weaver, Broderick & Calvert 1.*
Dibrell, Burke-Greis Oil Co. 5.*
Riley, Burke Greis & Gwinnup 1.*
Parker, Carter 1.*
Mullans, Daughlery 1.*
Crawford, English et al 1.*
Harris, English et al 1.*
Morris, Magnolia Petroleum Co. 18.*
Lobestein, Marland Oil Co. and Pennok et al 1.
Young, Morris & St. Johns 2.*
Casey, White Eagle Oil & Refining Co. 2.
Robertson, Corsicana Oil & Refining Co. 1.*
Padgitt, Davis et al 1.
Russell, Duffield Brothers 1.
Phillips, Fleeger 1.
Cameron, Hoffer Oil Co. 1.
Kelly & Gradys, Mimms 1.*
Johnson, Newby et al 1.*
Laughlin, Senior Petroleum Co. 1.
Moran, Shadbolt & Creighton 1.*
Kingsberry, Smythe & Lwerman 1.*
Fletcher, Van Eman et al 1.*
Wells, Van Eman et al 2.*
Baugh, Wilcox Oil Co. 1.*
Witkowski, World Oil Co. 1.*
Wallace, Zoch & McCamey 1.
Rigs, 1; wells drilling, 9; wells shut down, 18; total, 28.

COOKE COUNTY
Rigs
Kelly, Chronic et al 1.
Whaley, Richardson Brothers 1.
Allen, Scientific Oil Corp. 1.
Wells Drilling
Sellers, Abernathy & Oil Operators Trust Co. 1.
Clerr, Big Indian Oil & Dev. Co. 1.
Kleiss, Camp & Heydrick and Oil Operators Trust Co. 5.
Harris, Danciger Oil & Refining Co. 1.
Pybas & Benford, Fain-McGaha Oil Corp. 1
Wilson, Hoffer Oil Corp. 1.
Cox, Houseman et al 1.*
Hopkins, Hughes Development Co. 1.
Dennis, Kewanee Oil & Gas Co. 1.
Koelzer, Lynch, Stahl & Burress 1.
Stacey, Magnolia Petroleum Co. 1.
Cannon, McElreath & Suggett 1.
Potter, McElreath & Suggett 1.*
Luke, Oil Operators Trust Co. 4.
Hire & Seagraves, Petroleum Inv. Co. 1.
Embry, Pure Oil Co. 1.
Moore & Richoit, Richardson Brothers 1.
Walterschied, Roxana Petroleum Corp. 1.
Houston, Simpson et al 1.
Mitchell, Sowell Brothers 1.
Koelzer-B, Stroube & Stroube 2.
Hooker, Sun Oil Co. 1.
Dennis, The Texas Company 2.
Rigs, 3; wells drilling, 21; wells shut down, 2; total, 26.

EASTLAND COUNTY
Rigs
Spencer, Chestnut & Smith 1.
Barnett, Milham Corp. of Texas 1.
McCall, Texas Pacific Coal & Oil Co. 2.
Wells Drilling
Simmons, Chestnut & Smith, Inc., 1.
Carter, Eastland Oil Co. 1.*
Duffer, Gulf Prod. Co. 6.
Reynolds, Hazlip et al 1.
Collins, Kokomo Petroleum Co. 1.*
Sneed, Louisiana Oil & Refining Co. 1.
Woods Ets., Parsons 1.
Parsons, Prairie Oil & Gas Co. 1.
Elliott, Roberts Oil Corp. 1.
Silby, States Oil Corp. 1.
Summerall, States Oil Corp. 5.
Luse, Associated Petroleum Co. 1.
Good, Belva Oil Co. 1.
Eppler, Chestnut & Smith 1.
Kemp, Chestnut & Smith 2.
Mossman, Chestnut & Smith 1.
Spincer, Cranfill & Reynolds 2, 3.
Cade, Dodson & Rankin 1.
Bishop, Empire Gas & Fuel Co. 2.
Poe, Hoffman 1.
Morgan, Independent Oil & Gas Co. 3.
Barnett, Lowe, Delaney & Carter 1.
Johnson, McBride 1.*
Thorp, McLester Oil Co. et al 2.
Thomas, Magnolia 2.
Dyer, Moody et al 1.
Poe, Prairie Oil & Gas Co. 1.
Ray, Root et al 2.
Thorp, Root et al 1.
Watson, Root et al 2.
Blackburn, Shambolt & Creighton 1.*
Dingler, Simms Oil Co. 1.
Hall, States & Vacuum Oil Co. 1.
Cochran, T. P. Coal & Oil Co. 1.
Higginbotham, T. P. Coal & Oil Co. 2.
Chesley, Thomas & Reynolds 1.
White, Thompson et al 1.*
Weddington, Transcontinental Oil Co. 1.*
Ramsower, West Adams Petroleum Corp. 3, 4.
Rigs, 3; wells drilling, 35; wells shut down, 6; total, 44.

JACK COUNTY
Wells Drilling
Jackson, Seaboard Oil & Gas Co. 1.
Cullers, Buttram Petroleum Co. 2.
Gaskin, Buttram Petroleum Co. 1.
Williams, Buttram Petroleum Co. 1.
Fee, Holman heirs 1.
Kuykendall, Prairie Oil & Gas Co. 1.
Gray, Rochelle et al 1.*
Nash, Schermerhorn Oil Co. 1.*
Cullers, Seaboard Oil & Gas Co. 5.
Williams, Watchorn Oil & Gas Co. 1.
Rigs, 0; wells drilling, 8; wells shut down, 3; total, 11.

MONTAGUE COUNTY
Wells Drilling
Maddox-A, Arco Oil Co. 1.
Maddox-B, Arco Oil Co. 1.
Crenshaw, Bridwell & Heydrick 1.
Haralson, Campbell and Wanderer Oil Co. 1.
Rolling, Comet Petroleum Co. 1.
Agee, Continental Oil Co. and N. H. Martin 1.
Cowe, Continental Oil Co. 1.
Hinton, Continental Oil Co. 1.
Jones, Continental Oil Co. 9.
Molsber, Jr., Davis et al 1.*
Gist, McGinley et al 1.
Smith, Olean Petroleum Co. 1.
Crowe, Pure Oil Co. 5.
Maddox, Skinner et al 1.
Gist-B, The Texas Company 5, 6.
Cunningham, Wood, Benton & Lash & McCall 1.
Field, Burns & Farris 1.*
Bybee, Chapman et al 1.*
Adams, Dale Oil Corp. 1.
Crump, Beckner & Pace 1.*
Williams, Dickey et al 1.*
Wilson, Green et al 1.*
Barclay, Washington Oil Corp. 1.*
Tinney et al, Yates & Cumley 1.*
Rigs, 0; wells drilling, 7; wells shut down, 8; total, 25.

SHACKELFORD COUNTY
Rigs
Reynolds, Hope Oil & Gas Co. 13, 18.
Davis, Morton et al 3.
Cook-B-12, Roeser & Pendleton 6.
Wells Drilling
Reynolds, Albany Oil Co. 4.
Manley, Brann 1.
Mathews, Cato Oil & Gas Co. 1.
McLemore, Ceton Oil Corp. 1.
Davis, J. S. Cosden 1*.
Reynolds, French 1.
Mathews, Gibson & Murphy 1.
Green-63, Gwinnup et al. 1.
King, Humble Oil & Refining Co. 3.
Myer-B, Lee & Dingee 1.
Holstein, Marland Oil Co. 1.
Newell, Mid-Tex-Oil Co. 1*.
Fukusshima, Milham Corp. 1*.
Moore, Milham Corp. 4, 7, 8.
Sedwick, Milham Corp. 5.
Hill, Osage Oil Corp. 1.
Smalley, Overlees 1*.
Brazell, Phillips Petroleum Co. 4.
Reynolds, Prairie Oil & Gas Co. 1.
Webb, Prairie Oil & Gas Co. 1.
Reynolds-25, Roeser & Pendleton 2.
Reynolds-45, Roeser & Pendleton 1*.
Scott-172, Roeser & Pendleton 1.
Moberly, Rose et al. 4.
Poindexter, Ross 2.
Elliott, Sarver et al. 1.
Hagan, Shover & Pattison 1.
Nail, Sinclair Oil & Gas Co. 1, 4, 5, 9, 10
Grothe, Sommer et al. 1.
Proctor, Taliaferro 4.
Monahan, Templeman 1.
Harvey, Tombelin 1.
Jenkins, Waddington & House 1.
Rigs, 4; wells drilling, 34; wells shut down, 5; totals, 43.

STEPHENS COUNTY
Rigs
Kell-Pender Pro. Co. 6.
Wells Drilling
Magers, Hart Oil Corp. 1.
Hamil, Hickok Prod. Co. 1.
Richardson, Humble Oil & Refining Co. 1*.
Richardson, Mid-Kansas Oil & Gas Co. 4.
Martin, Texas Consolidated Oil Co. 9.
Riddle, Clark 1.
Fambough, Denny & Andrews 1.
Glenn, Humble Oil & Refining Co. 5.
Post, Phillips Petroleum Co. 1.
Tarrant, Seaboard Oil & Gas Co. 1.
Brydon, Shaw & Connor 1.
Parks-A, The Texas Company 44.
Binney, T. P. Coal & Oil Co. 70.
Rigs, 1; wells drilling, 12; wells shut down, 1; totals, 14.

THROCKMORTON COUNTY
Rigs
Graham, Reiter-Foster Oil Co. 5.
Matthews, Moore et al. 1.
Wells Drilling
Graham, Falls Prod. Co. 2.
Langford, Humble Oil & Refining Co. 1.
Ledbetter, Humble Oil & Refining Co. 1.
Cole, Red Bank Oil Co. 2.
Graham, Reiter-Foster Oil Co. 1*.
Parrott, Reiter-Foster Oil Co. 4.
Upsher County School Land, Hickman & Heydrick 5.
Mathews, Humble Oil & Refining Co. 1*.
Reynolds, Humble Oil & Refining Co. 1.
Mathews, M. H. Overlees 2*.
Mathews, Parker et al. 1.
Rigs, 2; wells drilling, 8; wells shut down, 3; totals, 13.

WICHITA COUNTY
Rigs
Rio Bravo, Murchison Oil Co. 1*.
Chilson, Blk. 8, John O'Neil 2.
Wells Drilling
Reilly, Magnolia Petroleum Co. 133, 134.
Staley Beach, Magnolia Petroleum Co. 45.
Schnackenberg, Underwood Drilling Co. 1.
Barton, Archer Oil Co. et al. 1.
Waggoner, Bailey Damuth Drilling Co. et al. 12*.
Chilton, Beaver Drilling Co. 1.
Waggoner, C. H. Clark et al. 4.
Ancell, Consolidated Oil Co. & Apple & Brandeberry 1.
Love, Cooper & McLaughlin 7.
Mitchell-B, J. W. Hooser 7*.
Van Horn, Koll-Tex Oil Co. 1*.
B. Ramming, Magnolia Petroleum Co. 4.
Burnett-B, W. M. Moore 1*.
Allingham-B, John O'Neil 1.
Daume, Panhandle Refining Co. 1.
Munger, Petroleum Prod. Co. 1.
Bywaters, Red River Oil Co. 5.
Munger, Shapell Oil Co. 8.
Waggoner, Simms Oil Co. 3.
Waggoner, The Texas Company 326, 327, 328, 329.
Burnett, C. W. Wallace 2*.
Rigs, 2; wells drilling, 20; wells shut down, 5; totals, 27.

WILBARGER COUNTY
Rigs
Waggoner-K, Fain-McGaha Oil Corp. 1.
Waggoner, Golding & Cochran et al. 1.
Waggoner-B, Milham Corp. 17.
Wells Drilling
Waggoner, Anderson et al. 1.
Fluhman-A, Atlantic Oil Prod. Co. 1.
Sigler-Waggoner, Atlantic Oil Prod. Co. 4.
Streit, Barkley & Meadows 1.
Waggoner, Sec. 57, Consolidated Oil Co. & J. S. Cosden 4.
Belcher, Fain-McGaha Oil Corp. 1.
Fluhman, Fain-McGaha Oil Corp. 9, 10*.
Waggoner-H, Humble Oil & Refining Co. 6, 12.
Waggoner-L, Humble Oil & Refining Co. 2*.
Waggoner-O, Humble Oil & Refining Co. 1.
Waggoner-R, Humble Oil & Refining Co. 1.
Zipperle, E. L. Keltz 2*.
Guyer, McLaughlin Bros. 1*.
Waggoner-B, Milham Corp. 10, 12*, 14*, 16.
Waggoner-L, Milham Corp. 22.
Waggoner-B, Murchison Oil Co. 2.
Lutz, North Vernon Oil Co. 1*.
Waggoner-A, Phillips Pet. Co. 16.
Waggoner-F, Phillips Pet. Co. 11
Waggoner-Y, Phillips Pet. Co. 6.
Waggoner-HH, Phillips Pet. Co. 7
Waggoner-II, Phillips Pet. Co. 1.
Waggoner-NN, Phillips Pet. Co. 15.
Waggoner-OO, Phillips Pet. Co. 3.
Waggoner-QQ, Phillips Pet. Co. 20.
Waggoner-WW, Phillips Pet. Co. 6*.
Waggoner, C. L. Sloan 2*.
Waggoner, Smith & Brady 1*.
Waggoner-B, Waggoner & Brady 1*.
Rigs, 3; wells drilling 24; wells shut down, 10; totals 37.

YOUNG COUNTY
Rigs
Dyer, Stafford & Hayes 1.
Ford, Atkinson & Sandefer 3-A.
Graham Est., Dyer et al. 1.
Whittenburg, Phillips Pet. Co. 2.
Parkinson, Reed et al. 1.
Fee, E. C. Stovall 8.
Wells Drilling
Donnell, Atkinson & Sandefer 2.
Foed, Atkinson & Sandefer 4*.
Gragg, Boller et al. 3.
Graham, Canyon Oil & Gas Co. 1*.
McCluskey, Conner et al 1*.
Johnson, Coonen & Hotchkiss 1.
Scott, Coones & Hotchkiss 1*.
Jones, J. S. Cosden 1.
Keen, Ginsbert et al. 1.
Davis, Holbrook & Woods 1.
Griffin, Humphries Corp. 1-B.
Costello Bros., Independent Oil & Gas Co. et al. 1*.
Weldon, Jacob Oil & Gas Co. 1.
Bryan, Lindsey Drilling Co. et al. 1*.
Graham, Lindsey Drilling Co. 1.
Chambers, Monroe Prod. Co. 1.
Kemp, Olney Prod. Co. 2.
Donnell, Painter et al. 1.
Mathews, Panhandle Refining Co. 8, 10.
Daws, Pardee & Thompson 1.
Scott, Pernetal Oil Co. 1.
Burnett, Pitzer & West 1.
Payne et al., Roxana Petroleum Corp. 4.
Scott, Roxana Petroleum Corp. 9.
Stovall, Ruthada Oil Co. 3-A, 4, 5.
Ragland, Seaboard Oil & Gas Co. & Nash & Windfohr 1*.
Burnett, Schonquist Drilling Co. 1.
Fee, E. C. Stovall 6, 7.
Gray, Tidwell & Dorsey 1.
Moore, Transcontinental Oil Co. 1.
Cheeves, Wichita Prod. Co. 1.
Rigs, 6; wells drilling, 28; wells shut down, 7; totals, 41.

MISCELLANEOUS
CLAY COUNTY
Rigs
Meyers, Hervick et al. 1.
Wells Drilling
Stone Est., Ashcraft et al. 1*.
Barry Jr., Empire Holding Corp. 6.
Barry Jr., Rounsaville et al. 1.
Johnson, Cove Oil & Gas Co. 1*.
Wetzel, H. R. Edwards 1*.
Sanzenbacker, O. H. Foster 1.
Miller, Lone Star Gas Co. 15.
Cozart, Seabury et al. 1*.

COLLIN COUNTY
Wells Drilling
Watkins, Verona Prod. Co. 1*.

DENTON COUNTY
Wells Drilling
Fortenberry, Gainesville Synd. 1*.
Bonner & Phillips, Harty et al. 1*.
Trietsch, Hudson Bros. 1*.
Waide, Jones & Eubank 1*.

ERATH COUNTY
Wells Drilling
Barton, Gillett 1*.
Finch, Nelson Oil Syndicate 3*.

FANNIN COUNTY
Wells Drilling
Moore, Erin Prod. Co. 1*.
Broadfoot, Honey Grove Oil & Gas Co. 1*.

FOARD COUNTY
Wells Drilling
Mathews, Fain-McGaha Oil Corp. et al 1.
McAdams, Humble Oil & Refining Co. & Navarro Oil Co. 1.

GRAYSON COUNTY
Wells Drilling
Taylor, Richardson Bros. 1.

HARDMAN COUNTY
Wells Drilling
Mayfield, Murchison Co. 1.

HASKELL COUNTY
Grissom, Blackstone Oil Co. 1*.
Ballard, Kouri et al. 3.
Reynolds, Moody Oil Corp. 1*.
Jetter, Subbie Oil Ints. 1*.
Colbert, Weart & York 1*.
Scott Ranch, Western Exploration Co. 1*.

KNOX COUNTY
Rigs
Teague, The Texas Company 1.
Wells Drilling
Beavers, Deep Rock Oil Co. 1.
Coffman, Deep Rock Oil Co. 1.
Jones, Deep Rock Oil Co. 1.
Goode, Humble Oil & Refining Co. 1.

PALO PINTO COUNTY
Rigs
Lane, Dixie Drilling Co. 1.
Slemmons, Pender Prod. Co. 3.
Wells Drilling
Dalton, Jack Dalton Oil Co. 7.
Humphries, Dewett et al. 1*.
Morgan, Orbit Drilling Co. 1.
Jones, Shaw 1*.
Seaman, Dixie Drilling Co. 1.
Rasmussen, Pender Prod. Co. 2*.
Stuart, Strawn Petroleum Co. 24*.

WISE COUNTY
Wells Drilling
Houston, Little Co. 1.
Beall, Winemiller Oil Corp. 1.
Rigs, 4; wells drilling, 19; wells shut down, 24; totals, 47.

WEST TEXAS COMPLETIONS
COCHRAN COUNTY

C. Landon, J. C. Whicker 1	dry
Wells completed	1
Production	0
Dry	1

CONCHO COUNTY

Sam Waring, Associated Pet. Co. 1	dry
Hartgrove, Gene Mays et al. 1	dry
Wells completed	2
Production	0
Dry	2

CRANE COUNTY

University, Eastland Oil Co. & Collett 2	2000
J. T. McElroy, Gulf Prod. Co. 9	1110
Crier-McElroy-A, Gulf Prod. Co. 4	490
Crier-McElroy, Gulf Prod. Co. 6	365
State Lasseter, Gulf Prod. Co. 2	125
State Lasseter, Gulf Prod. Co. 6	335
University, Humble Oil & Ref. Co. 6	1500
O'Keefe, Magnolia Pet. Co. 7	50
University, Prairie Oil & Gas Co. 6	100
University, Simms & Atlantic 6	150
University, Simms & Atlantic 7	210
University-A, Simms & Atlantic 5	200
University-C, Simms & Atlantic 2	30
Wells completed	14
Production	6671

CROCKETT COUNTY

University, Young & Cromwell 1	dry
University, George A. Henshaw 1	dry
Wells completed	2
Production	0
Dry	2

FISHER COUNTY

Anderson, California Co. 1	dry
Maggenheimer, California Co. 1	dry
Langford, Hucony Gas Co. 1	dry
Rochelle, Marland Oil Co. 1	dry
C. M. Webb, Fred Phillips 1	dry
Clayton, Zock et al 1	dry
Wells completed	6
Production	0
Dry	6

HOWARD COUNTY

A. J. Hooks, Bristow & Merrick 3	110
Douthitt, Humble Oil & Ref. Co. 3	dry
Otis Chalk, Lockhart & Co. 3	30
Otis Chalk-A, Lockhart & Co. 2	30
Otis Chalk-A, Lockhart & Co. 3	15
Kelly Chalk, Magnolia Pet. Co. 1	10
Chalk, Magnolia Pet. Co. 6	15
Chalk-A, Marland Oil Co. 7	50
Chalk-A, Marland Oil Co. 8	75
H. R. Clay, Marland Oil Co. 3	65
H. R. Clay, Marland Oil Co. 4	92
H. R. Clay, Marland Oil Co. 5	20
H. R. Clay-A, Marland Oil Co. 3	45
H. R. Clay-A, Marland Oil Co. 4	75
H. R. Clay-A, Marland Oil Co. 5	113
H. R. Clay, Midwest Exp. Co. 1	25
H. R. Clay, Reeves & Apperman 2	122
Otis Chalk, Tidal Oil Co. 1	25
Otis Chalk, Tidal Oil Co. 2	40
Wells completed	13
Production	967
Dry	1

JONES COUNTY

Armond & Taylor, Consolidated Oil Co. & Marland Oil Co. 1	dry
Mrs. A. Zips, Gault & Brown et al 1	dry
King, Gillette & Hickey & Cowboy Oevans 1	dry
Mrs. F. G. Phillips, Grisham & Hunter & Wildman 1	dry
Cranston, Hart & Cole 1	dry
Culbertson, Victor H. Martin 1	dry
J. R. Walling, Phillips Pet. Co. 4	150
J. M. Higgs, Stebbing Oil Co. 1	20
Clark, World Oil Corp. 1	dry
Wells completed	9
Production	170
Dry	7

MITCHELL COUNTY

C. M. Adams Lse. 2, California Co. 4	112
Z. Morrison Lse. 1, California Co. 1	30
Petitfill Lse. 2, California Co. 3	122
Petitfill Lse. 2, California Co. 4	89
Griffith, Morrison & Thompson 1	dry
Wells completed	5
Production	353
Dry	1

PECOS COUNTY

M. Holmes, Arkansas Fuel Oil Co. 1	dry
Union Land Co., California Co. 1	dry
K. C. & Ft. Stockton, Del Rio Drilling Syndicate 1	dry
I. G. Yates, Geo. A. Henshaw Jr. 1	dry
Yates-A, Mid-Kansas & Transcontinental Oil Co. 4	2109
Yates-B, Mid-Kansas & Transcontinental Oil Co. 1	7327
Yates-C, Mid-Kansas & Transcontinental Oil Co. 1	4417
Wells completed	7
Production	13853
Dry	4

REAGAN COUNTY

University, Big Lake Oil Co. 57	37
University, Big Lake Oil Co. 72	239
University, Big Lake Oil Co. 107	30
University, Big Lake Oil Co. 108	933
University, Big Lake Oil Co. 109	1235
University, Big Lake Oil Co. 111	100
University, Big Lake Oil Co. 114	300
University, Big Lake Oil Co. 116	85
University, Big Lake Oil Co. 117	50
University Gr. 1, Texon Oil & Land Co. 39	89
University, Gr. 1, Texon Oil & Land Co. 8-A	25
University, Gr. 1, Texon Oil & Land Co. 10-A	100
J. D. Sugg, The Texas Co. 2	dry
Wells completed	14
Production	3314
Dry	1

TAYLOR COUNTY

Fee, City of Abilene 1	dry
J. F. Hendry, Gibson & Johnson 1	dry
Gillespie, Sanger Oil & Ref. Co. 1	dry
Wells completed	3
Production	6
Dry	3

TERRELL COUNTY

Bowden, E. T. Williams 1	dry
Wells completed	1
Dry	1

UPTON COUNTY

Hughes, Amerada Pet. Corp. 6	20
Ricker, Humble Oil & Ref. Co. 3	dry
Baker, McMan Oil & Gas Co. 2	150
Lane-C, Prairie Oil & Gas Co. 1	2019
Bowen, Roxana Pet. Corp. 26	110
E. S. Hughes, Snowden & McSweeney 1	297
Lane-A, T. P. Coal & Oil Co. 7	240
Wells completed	7
Production	2846
Dry	1

WINKLER COUNTY

Hendricks-C, Southern Crude Oil Purchasing Co. 1	1006
Wells completed	1
Production	1006

RIGS AND WELLS DRILLING
CRANE COUNTY
Rigs
University, Church & Weekly 3.

University, Carl Cromwell et al 11, 12.
University, Eastland Oil Co. and Collette 3, 5, 6.
University, Humble Oil & Refining Co. 10.
W. N. Waddell, Gulf Prod. 2.
University-A, Independent Oil & Gas Co. 3.
University-B, Independent Oil & Gas Co. 1.
State, Landreth Prod. Corp. 6.
State-Lasseter, Magnolia Petroleum Co. 5.*
University-Hardwick, Magnolia Petroleum Co. 3, 7, 8.
University, Simms and Atlantic 9.
University-C, Simms and Atlantic 4, 5.
University-E, Simms and Atlantic 1.
University-F, Tidal Oil Co. 5, 6.
University-I, Tidal Oil Co. 1.

Wells Drilling

Duoll-University, Church & Fields 1.
University, Church & Weekly 2.
University, Carl Cromwell et al 4, 5, 6, 7.
University, Eastland Oil Co. and Collette 7.
J. T. McElroy, Gulf Production Co. 11, 12, 13, 14, 15, 16.
State-Lassiter, Gulf Production Co. 8, 9, 10.
University, Humble Oil & Refining Co. 9.
University-A, Independent Oil & Gas Co. 2.
State, Landreth Prod. Corp. 1, 2, 3, 4, 5.
O'Keefe, Magnolia Petroleum Co. 6, 7, 9.
University-Hardwick, Magnolia Petroleum Co. 2, 4, 5, 6.
University, Simms & Atlantic 8.
University-C, Simms & Atlantic 2, 3.
University-D, Simms & Atlantic 2.
University, The Texas Company 1.
University-H, Tidal Oil Co. 1, 2.
Rigs, 21; wells drilling, 37; wells shut down, 0; total, 58.

CROCKETT COUNTY

Rigs

Powell-B, Humble Oil & Refining Co. 2.
J. M. Shannon, Young & Donnelly 1.

Wells Drilling

Couch, Anchor Oil Co. (Cumberland) 1.*
P. C. Coates, V. T. Boline & Co. 1.*
Powell, Carl Cromwell 4.*
Powell, J. K. Hughes 2-B.
Shannon, Magnolia Petroleum Co. 2.*
University, William Shaffer et al 1.* 2.*
Pierce, W. W. Donnelly, Young, Logan & Hults 1.*
L. P. Powell, P. H. Williams 1.
Schneeman, World Oil Co. 1.
Rigs, 2; wells drilling, 2; wells shut down, 7; total, 11.

HOWARD COUNTY

Rigs

Sloan Chalk, Magnolia Petroleum Co. 2.
Albert M. Fisher, Marland Oil Co. 1.

Wells Drilling

Otis Chalk, Gulf Prod. Co. 3.
Chester Jones, Howard et al 1.
Otis Chalk, Fred Harvey 2.
Martin, W. W. Donnelly et al 1.*
John Roberts, F. H. E. Oil Co. 1.
A. J. Hooks, Godley Oil Co. 1.
Mrs. Dora Roberts, L. C. Harrison et al 1.*
Kelly Chalk, Magnolia Petroleum Co. 3.
Otis Chalk, Magnolia Petroleum Co. 7.*
Sloan Chalk, Magnolia Petroleum Co. 3, 4.
Mary Chalk, Magnolia Petroleum Co. 5.*
Chalk-A, Marland Oil Co. 5.*
H. R. Clay-C, Marland Oil Co. 1.*
H. R. Clay-D, Marland Oil Co. 1.*
J. B. Harding, Marland Oil Co. 1.
Guitar Est. No. 1, Marland Oil Co. and Zoch 1.
H. R. Clay, Midwest Exploration Co. 2.
John Roberts, Owens & Sloan 1.
Otis Chalk, Pure Oil Co. 1.* 2, 3.*
A. J. Hooks, Pure Oil Co. 1.
Rigs, 2; wells drilling, 14; wells shut down, 9; totals, 35.

JONES COUNTY

Rigs

Joe Winters, Phillips Pet. Co. 3.

Wells Drilling

Howell, Atlantic Oil Producing Co. and Landreth 2.*
Southard, Bateman & Campbell 1.
L. H. Herndon, Midwest Exploration Co. (was Campbell et al) 1.
Largent, Gibson & Johnson 1.
M. E. Young, Gillette & Hickey 1.*
Williams, Grisham & Hunter & Wildman 1.
Smith, Hutson & Weaver 1.*
J. H. Milsap, Kirk & Brower 1.
R. W. King, Manhattan Oil Co. 1.
E. Howell, Marston Oil Co. 1.*
J. S. Swan, Marston Oil Co. 1.
H. Evans, Mid-Continent Petroleum Corp. 1.*
Thornton, Phillips Petroleum Co. 1.*
Joe Winters, Phillips Petroleum Co. 4.
H. B. Vestal, Phillips Petroleum Co. 1.*
Bristow, Shaw & Rathke et al 1.*
J. P. Willis, W. G. Stough et al 1.
Caton, Swensondale Oil Co. 1.*
Oscar Claeys, Tomberlin et al 1.
Boyd, World Oil Co. 1.*
Reeves, Kingston et al (was Zeigler) 1.*
Rigs, 1; wells drilling, 10; wells shut down, 11; total, 22.

MITCHELL COUNTY

Rigs

C. Way, Robert Thraves 1.
W. W. Sanders, Tex-O-Kan Oil Co. and Robert Thaves 1.
J. J. Handley, Lease 1, California Co. 4.

Wells Drilling

F. A. Adams, Magnolia Petroleum Co. 4.
C. M. Adams, Magnolia Petroleum Co. 8.
Mary Foster, Magnolia Petroleum Co. 4.
T. L. McKinney, Magnolia Petroleum Co. 1.
W. W. Watson, Magnolia Petroleum Co. 2.
C. C. Adams, Lease 3, California Co. 3.
Dock Handley, California Co. 1.
W. L. Foster, Lease 1, California Co. 3.
Swenson, California Co. 2.
Ed Strain, Paul Teas 1.
J. E. Dollen, B. E. Walter et al 1.*
Rigs, 3; wells drilling, 10; wells shut down, 1; total, 14.

REAGAN COUNTY

Wells Drilling

University, Big Lake Oil Co., 17-B*, 37-A*, 89, 110, 112, 115,* 118, 119, 120, 121, 122, 123.
University, Group 1, Texon Oil & Land Co. 61, 9-A.* 1-B.*
University, Group 2, Texon Oil & Land Co. 4.
University, Tidal Oil Co. 1.
Rigs, 0; wells drilling, 12; wells shut down, 5; total, 17.

UPTON COUNTY

Wells Drilling

J. F. Lane, Beaty et al 1.
Mrs. M. L. Baker, Bryant & Atlantic 2.
Burleson, Dixie Oil Co. 24, 25.
E. S. Hughes, Dixie Oil Co. 13.
Hughes-B, Gulf Prod. Co. 1.
J. F. Lane, Gulf Prod. Co. 1.
Giddings, L. E. Hultz et al 1.*
Ricker, Humble Oil & Refining Co. 5.
Taylor, Independent Oil & Gas Co. 60, 71.
Benton Land, Marland Oil Co. 3.*
Burleson, Marland Oil Co. 3, 34.*
Estep, Marland Oil Co. 11.*
University, W. W. Donnelly et al 1.
Allie Lane, Prairie Oil & Gas Co. 2.
Bowen, Roxana Petroleum Corp. 23,* 23, 25, 27*, 27.*
Bull, Sartain & Davis 1.*
B. C. Clark, Simms Oil Co. 1.*
King, The Texas Company 15.* 19.
J. M. Perry, The Texas Company 1.
Hughes, Tidal Oil Co. 1.
Lane-A, T. P. Coal & Oil Co. 8, 9.
Hughes, White Eagle Oil & Refining Co. 1.
Rigs, 0; wells drilling, 21; wells shut down, 10; total, 31.

WEST TEXAS MISCELLANEOUS

ANDREWS COUNTY

Wells Drilling

W. J. Harris, Sartain Oil Co. et al (was Deep Rock Oil Co.) 1.*
J. S. Means, C. B. McKennon (was Neff et al) 1.*
Cowden, A. G. Carter and Zweifel 1.
W. B. Taylor, Maer & Saniforth 1.

BORDEN COUNTY

Wells Drilling

J. S. York, J. L. Kennedy 1.
Snodgrass, Stivers et al 1.

BREWSTER COUNTY

Rigs

McIntyre, McPhail & Kemper 1.

COKE COUNTY

Wells Drilling

Mrs. B. Byrnes, Danciger Oil & Refining Co. 1.
S. M. Conner, Linan Oil Co. 1.*

CONCHO COUNTY

Wells Drilling

Price, Harry Adams et al 1.
Hartgrove, Arkansas Fuel Co. 1.*
Hartgrove, The Exploration Co. 1.*

COTTLE COUNTY

Wells Drilling

Richards, Exploration Co. 1.
Tom Burnett, Sun Oil Co. 1.

CULBERSON COUNTY

Wells Drilling

Radford, James H. Gardner et al 1.*

DICKENS COUNTY

Wells Drilling

Pitchford ranch, Bowser Mickels et al 1.
Jones, Moutray Oil Co. and Clancey & English 1.

ECTOR COUNTY

Wells Drilling

Connell-A, J. S. Cosden, Inc., et al 2, 3.

FISHER COUNTY

Rigs

McCall, Marland Oil Co. and Texon 1.
W. W. Ammons, Miley Oil Corp and Marland Oil Co. 1.
D. S. Stevenson, The Texas Company 1.

Wells Drilling

W. A. Cross, Barber Oil Co. (was Mason Oil Co.) 1.
Lanius, Zoch & McCamey and Marland Oil Co. 1.*
Jameson, Ideal Oil Co. 1.
H. R. Lagow, Marland Oil Co. and Vacuum Oil Co. 1.
Maberry, R. W. Raney 2.*
J. A. Daise, Sinclair Oil & Gas Co. (was Bourdon Royalty Co.) 1.*
W. A. Howe, Stearns & Streeter 1.

GAINES COUNTY

Wells Drilling

Birge & Forbes Land Co., Westheimer & Daube 1.

GARZA COUNTY

Rigs

Justice, Pandem Oil Co. 1.

Wells Drilling

D. Boren, Emerald Oil Co. 1.*

GLASSCOCK COUNTY

Rigs

L. S. McDowell, World Oil Co. and J. S. Meriwether 1.
F. G. Oxsheer, Green et al 1.*

Wells Drilling

HOCKLEY COUNTY

Wells Drilling

Ellwood, El Capitan Oil Co. 1.*

HUDSPETH COUNTY

Wells Drilling

Gardner & Moseley, Lockhart Brothers 1.*

IRION COUNTY

Wells Drilling

Abe Mayer, Cash Dollar et al 1.*
G. J. Bird, Cash Dollar et al 1.*

JEFF DAVIS COUNTY

Wells Drilling

Crescencio Flores, Humble Oil & Refining Co. 1.
J. Z. Means, J. K. Hughes Development Co. 1.*

KENT COUNTY

Wells Drilling

Scoggins, Douglas Oil Co. 1.

KING COUNTY

Wells Drilling

Burnett Estate, Gibson & Johnson 1.
Patton, Midwest Exploration Co. 1.
Patton, J. L. Pattison 1.
Burnett, Phillips Petroleum Co. 1.
Burnett, Sinclair Oil & Gas Co. 1.
Burnett, White Eagle Oil & Refining Co. 1.

LOVING COUNTY

Wells Drilling

T. O. Moore, Kingwood Oil Co. 1.*
W. D. Johnson, Owens & Sloan 1.*

LUBBOCK COUNTY

Wells Drilling

Bowles Ranch, Sam Arnett et al 1.*

LYNN COUNTY

Wells Drilling

C. O. Edwards, The Hart Oil Corp. 1.*

MOTLEY COUNTY

Rigs

C. D. Bird, Wheeler et al 1.*

Wells Drilling

J. W. Owens, Chechaco Oil Co. (J. W. Pennington et al of Amarillo) 1.
Burleson, Exploration Co. 1.
Tillson, Exploration Co. 1.

NOLAN COUNTY

Rigs

Pepper, Herbert Oil Co. (was McClesky et al) 1.

Wells Drilling

M. C. McElmurry, A. G. Malone et al 1.*
Booth, J. H. Winemiller Corp. (was Peters et al) 1.*
Allen, Thomas & Reynolds 1.
Scott, Phillips Petroleum Co. 1.
Longbotham, Zweifel et al 1.*

PECOS COUNTY

Rigs

Bonebrake, M. C. Dibble & Hale 1.
M. Holmes, Bob Elmore 1.
Yates-B, Mid-Kansas and Transcontinental 2.

Wells Drilling

Pecos River Bed, Allsman & Bell 1.
J. C. Trees, Benedum & Trees 1.
Batcheler, Buell et al 1.
McKenzie, Buell & Hagan 1.
Blackman, Cromwell & Kimberlin 1.*
J. T. McElroy, Humble Oil & Ref. Co. and Kirby Oil Co. 1.
Smith Taylor, Mid-Kansas Oil & Gas Co. 1.
Townsite, Quinby Oil Co. 1.*
Burnett, Quinby Oil Co. 2.
A. A. Gray, Quinby Oil Co. 1.
F. A. Perry, Seventy-Five Oil Co. 1.
I. G. Yates, W. R. Shankel et al 1.
I. G. Yates, Texon Oil & Land Co. 2.*
Blakesley, Texon Oil & Land Co. and Marland Oil Co. 1.
Mrs. L. Hersenson, John Dropplemann 1.

PRESIDIO COUNTY

Wells Drilling

Tootle Estate, Headlock & Miller 1.

REAGAN COUNTY

Wells Drilling

University, Tidal Oil Co. 1.
Caldwell, Deep Rock Oil Co. 1.
A. A. Kinney, Exploration Co. 1.*
Kloh, Humble Oil & Refining Co. 1-B.
Biggs, World Oil Co. 1.*
Guff, World Oil Co.

RUNNELS COUNTY

Wells Drilling

W. W. King, Associated Petroleum Co. (was Bell & Moore) 1.*
Ferguson, Moore & Bell 1.*
Simms, Noble Oil Co. 1.*
R. M. McMillan, Lou Ladd et al (was Frank Yates) 1.

SCHLEICHER COUNTY

Wells Drilling

J. A. & W. T. Whitten, Beavers & Leath et al 1.*
Ball Robinson, Thomas Grey et al 1.*

SCURRY COUNTY

Wells Drilling

Stinson, Northwest Co. 1.

STERLING COUNTY

Rigs

Fisher Brothers, L. Little 1.
Neal Reed, Orr et al 1.

Wells Drilling

Clark, J. P. Williams 1.*

STONEWALL COUNTY

Wells Drilling

J. Ward, R. F. Garland & Co. (was McCamey & Zoch) 1.

TAYLOR COUNTY

Wells Drilling

Henslee, Brown Prod. Co. 1.*
J. A. Hammer, Dorning & Perrine 1.*
D. D. Huddleston, Grisham & Hunter 1.*
Hunt, W. E. Halbert et al 1.*
Mattie Jacobs, Humble Oil & Refining Co. 1.*
Dora Smith, Midwest Exploration Co. 1.*
Toombes Midwest Exploration Co. 1.
Mrs. Alice Rose, Morrison & Thompson 1.
Lattimer, Owen & Sloan 1.*
Sam Hutman, Roeser & Pendleton 1.*
Ike Brosn, Sanger Oil & Refining Co. 1.*
J. R. Griffith, World Oil Co. 1.*

TERRY COUNTY

Wells Drilling

Brownsfield, Kingsland Oil & Potash Co. 1.*

TOM GREEN COUNTY

Wells Drilling

Bennett, Fitzgerald et al 1.*
Llano, Marland Oil Co. 1.

VAL VERDE COUNTY

Wells Drilling

Moore Estate, A. Blume et al 1.*
Holman, Curson Williams 1.
Sellars, Douglas Oil Co. 1.
Russell, East Del Rio Oil Co. 1.*
Sellard, Hiawatha Oil Co. 1.
Whitehead, Magnolia Petroleum Co. 1.*
Whitehead, Independent Operators 1.*
Mills, O. O. Owens 1.

WARD COUNTY

J. Sealey, Marland Oil Co. 1.

WINKLER COUNTY

Rigs

Hendricks, Atlantic Oil Prod. Co. 1.
T. G. Hendricks, Gulf Prod. Co. 3, 7.
T. G. Hendricks, Humble Oil & Refining Co. 1.
Hendricks-A, Independent Oil & Gas Co. 2.
Hendricks, Southern Crude Oil Pur. Co. 1-F.

Wells Drilling

D. W. Cowen, Champlin Drilling Co. 1.
T. G. Hendricks, Gulf Prod. Co. 4, 5, 6.
T. G. Hendricks, Gr. 1, Humble Oil & Refining Co. 1.
Hendricks, Independent Oil & Gas Co. 1.
Hendricks-A, Independent Oil & Gas Co. 1.
Scarborough, Llano Oil Co. 1.
Tobe Morton, McCullough Oil Co. 1.
Amburgey, L. D. Ladd, Hill et al 1.*
State, R. S. Matthews et al 1.
Hendricks, Pure Oil Co. 1.
M. M. Leeman, Skelly Oil Co. 1.
Hendricks, Southern Crude Oil Purchasing Co. 2-C, 3-C, 4-C.
Hendricks-B, Southern Crude Oil Purchasing Co. 1.
Central State Bank, Texon Oil & Land Co. 1.
R. A. Lock, White Eagle Oil & Refining Co. (was Gibson & Johnson) 1.
Rigs, 19; wells drilling, 77; wells shut down, 51; total, 147.

LOUISIANA-ARKANSAS

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bossier	2	0	2	0	0	7	7
Caddo	24	304	7	4	15	36	51
Claiborne	1	0	1	0	0	3	3
DeSoto	0	0	0	0	1	6	7
Grant	2	0	2	0	2	0	2
LaSalle	3	10	2	0	1	5	6
Monroe district	5	*	1	4	6	5	11
Natchitoches	1	0	1	0	0	1	1
Red River	2	5	1	0	0	1	1
Richland	1	0	0	1	2	2	4
Sabine	4	550	1	1	4	18	22
Webster	1	0	1	0	4	5	9
Winn	2	0	2	0	2	4	6
Miscellaneous	3	0	3	0	3	2	5
Total May	51	869	24	10	40	95	135
Total Apr.	66	3,409	29	16	41	88	129
Difference	15	2,540	5	6	1	7	6

*Gas, 37,500,000 feet.

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union	24	1,037	6	6	12	21	33
Ouachita	7	139	3	0	3	12	15
Columbia	0	0	0	0	1	4	5
Nevada	2	0	2	0	0	3	3
Miscellaneous	3	0	3	0	0	5	5
Total May	36	1,176	14	6	16	45	61
Total Apr.	34	2,171	11*	3	17	52	69
Difference	2	995	3	3	1	7	8

WELLS COMPLETED

BOSSIER PARISH

32-23-13 Ford, Clark & Norton 1 ... dry
5-18-11 C. D. Sandidge, Simms Oil 2 dry

Wells completed ... 2
Dry ... 2

CADDO PARISH

4-17-16 Wilburn, Bahan & Bahan 1 ... dry
12-21-16 Murff, L. A. Barston 6 ... 5
2-20-16 Dambley, Burford et al. 1 ... dry
26-21-15 Beckham, Bussa & McGoldrick 6 ... 5
33-21-16 Fee, W. D. Chew 5 ... 20
14-21-15 Robertshaw, Dixie Oil Co. 86 ... 6
13-21-15 Robertshaw, Dixie Oil Co. 81 ... gas
14-21-15 Robertshaw, Dixie Oil Co. 87 ... 120
28-20-16 Ferry Lake, Gulf Refining Co. 266 ... 25
22-20-16 Ferry Lake, Gulf Refining Co. 268 ... 26
8-19-16 Hampton, H. M. Hancock 1 ... 5
26-18-16 Thigpen & Herold, B. A. Hardy 2 ... gas
23-21-15 Dillon, Magnolia Pet. Co. 20 ... 12
7-21-14 Planters, Magnolia Pet. Co. 4 ... dry
10-20-15 Glassell, M. I. Morgan 8 ... 25
5-22-16 Moodie Fortner, Ohio Oil Co. 1 dry
5-17-15 Bell, Owl Oil Co. 1 ... dry
33-21-16 Stiles, Standard Oil Co. 183 ... 30
23-22-15 Allen, Standish O. & R. Co. 11 gas
22-21-15 Herndon, The Texas Company 6 ... abd
15-15-12 Long, The Texas Company 1 ... gas
10-20-16 Hardy, The Texas Company 1 ... 5
21-21-15 Hicks & Payne, The Texas Company 5 ... dry
31-21-15 Muslow, Thomason et al. 7 ... 10

Wells completed ... 24
Production ... 304
Dry and abandoned ... 7
Gas ... 4
Gas production ... 43,500,000

CLAIBORNE PARISH

17-19-5 Byrd, Triangle Drilling Co. 1 ... dry

GRANT PARISH

17-9-1e Barrett, Philp et al. 1 ... dry
18-9-1e Fee, Swope, L. B. 1 ... dry

Wells completed ... 2
Dry ... 2

JACKSON PARISH

22-16-4w Davis, Louisiana Pet. Co. 3 ... dry

LA SALLE PARISH

25-10-1e Tremont, Louisiana O. & R. Corp. B-37 ... 10
9- 7-2e L. & A., Tunica Pet. Co. 26 ... dry
6- 8-3e L. & A., Tunica Pet. Co. 25 ... dry

Wells completed ... 3
Production ... 10
Dry ... 3

MONROE DISTRICT

20-20-5e Dewdrop, Louisiana Gas Prod. Co. 5 ... gas
21-20-5e Fee, Louisiana Dev. Co. 38 ... gas
18-20-5e Handy, Natural Gas Prod. Co. 1 gas
28-23-2 Futch, R. W. Rhodes 1 ... dry
10-20-4e Gulley, Ruston Drlg. Co. 1 ... gas

Wells completed ... 5
Production ... 0
Dry ... 1
Gas ... 4
Gas production ... 37,500,000

NATCHITOCHES PARISH

35-13-6w L. & A. Tunica Pet. Co. 24 dry

RAPIDES PARISH

29-5-2e Barrow, Hincey & Macke 1 ... dry
3-4-3e Lanier, Wheeler & Wilbanks 1 ... dry

Wells completed ... 2
Dry ... 2

RED RIVER PARISH

7-12-10 Foursome, Magnolia Pet. 14 ... 5
16-12- 8 Long Bell, Phillips Pet. Co. 1 dry

Wells completed ... 3
Production ... 5
Dry ... 1

RICHLAND PARISH

20-17-6e Mitchell, Stovall Drlg. Co. 1 ... gas

Wells completed ... 1
Production ... 0
Gas ... 1
Gas production ... 4,500,000

SABINE PARISH

28-10-12 Logan Oil Co., Ark. Fuel Oil 5 50
28-10-12-Logan Oil Co., Beckman & Freeman 1 ... gas
11- 6-11 La. LLL Co. Magnolia 1 ... dry
5- 9-12 O. F. Moore, Moffett et al 1 ... 500

Wells completed ... 4
Production ... 550
Dry ... 1
Gas ... 1
Gas production ... 1,000,000

WEBSTER PARISH

20-19-10 Roberts, S. A. Lane et al. 1 ... dry

WINN PARISH

33-10-2w L. & A., Humble, 22-A ... dry
28-10-2w L. & A., Humble O. & R. Co. 21 dry

Wells completed ... 2
Dry ... 2

ARKANSAS

Union County

3-16-15 Hardy Murphy, Gulf Ref. Co. 44 137
9-16-15 T. C. Murphy, Gulf Ref. Co. 23 16
36-17-16 Springer, Howell & Knowles 2 dry
17-16-15 Murphy, E. M. Jones 4 ... gas
9-16-15 Murphy, Keen & Woolf 5 ... 56
23-18-18 Murphy Land Co., Lion O. & R. Co. 1 ... dry
10-16-15 Flenniken, Lion O. & R. A-9 93

10-16-15 Lawton, Lion O. & R. Co. A-11 450
9-16-15 Murphy, Lion O. & R. Co. H-2 68
9-16-15 Murphy, Louisiana O. & R. B-3 17
7-16-16 Freeman, Magnolia Pet. Co. 3.. 30
8-16-16 Crawford, Magnolia Pet. Co. 2 20
10-18-13 Wynn, Marine Oil Co. B-1.... gas
10-18-13 Thompson, Marine Oil Co. A-2 dry
15-17-16 Milner, J. L. Meek 2..... abd
9-16-15 Bilyew, National G. & F. Corp. 4 30
9-16-15 Bilyew, Natl. G. & F. Corp. A-11 95
9-16-15 Murphy, Ohio Oil Co. 6..... gas
15-18-13 Simmons, J. W. Olvey, 1..... gas
9-16-15 Palmer, Peer Corp. B-1..... dry
14-18-13 Crawford, Simms Oil 1 ..... dry
9-16-15 Murphy, Stewart et al. 5..... gas
3-16-15 Hays, Sun Co. 20 25
5-18-13 Flenniken, Sunny Jim O. Co. 4 gas

Wells completed 24
Dry and abandoned 6
Production 1,037
Gas 6
Gas production 165,000,000

OUACHITA COUNTY

33-15-15 Bennett, Gulf Ref. Co. 11..... 9
19-12-17 Ponder, H. M. Harrell 1..... dry
15-14-19 Lancaster, Humble O. & R. 1 dry
15-15-19 Gosden, Magnolia Pet. Co. 2.. dry
5-16-15 Humstead, Marine Oil Co. 7.. 45
5-16-15 Humstead, Marine Oil Co. 11.. 50
22-15-19 Culp, Wesson et al. 1..... 35

Wells completed 7
Production 139
Dry 3

NEVADA COUNTY

9-15-22 Bodcau, Humble O. & R. Co. 4 dry
22-12-21 Rhodes, Fruen et al. 1..... dry

Wells completed 2
Dry 2

ASHLEY COUNTY

20-15- 1 Bledsoe, Rhodes & Kicker 1... dry

BRADLEY COUNTY

25-16-12 Arkansas Timber Co., Ark. Fuel Oil Co. 1..... dry

GRANT COUNTY

36- 5-12 Long Bell, Shaffer O. & R. 1 dry

RIGS AND WELLS DRILLING

LOUISIANA

BIENVILLE PARISH

Rigs

11-17- 6 Perritt, Edwin J. Forrest 1.
21-16- 5 Hodge Hunt, W. E. Hicks et al. 1.

Shut Down

9-15- 7 L. & A., S. P. Borden 1.
27-15- 8 Cargle, Kimbrough et al. 1.
Rigs, 2; wells drilling, 2; total, 4.

BOSSIER PARISH

Wells Drilling

15-19-11 Bliss & Weatherbee, Humble O. & R. 30.
9-16-11 Bossier, Palmer Corp. 4.
16-23-12 Dodson, W. R. Ramsey 1.
22-23-12 Robertson, W. R. Ramsey 1.
23-17-12 Jeter, Sligo Syndicate 1.
15-23-12 Dodson, Ttate Oil Co. 1.
26-20-13 Jacobs, Tubbs et al. 1.

Shut Down

10-22-11 Thomas, Doern et al. 1.
14-21-14 Gibson-Tiger, John Glassell, Jr. et al. 1.
15-23-12 Dodson, Magnolia Pet. Co. 1.
24-16-12 Caplis, The Texas Company 14.
Rigs, 0; wells drilling, 7; total, 7.

CADDO PARISH

Rigs and Locations

19-17-16 Stringfellow, J. R. Bahan 3.
34-22-15 Hoss, Bayou State Oil Corp. 29.
6- 6-16 Angurs, B. A. Hardy 2.
35-18-16 Trosper, B. A. Hardy 1.
18-18-16 Wheeler, B. A. Hardy 1.
21-21-15 Dillon, Magnolia Pet. Co. 18.
23-21-15 Dillon, Magnolia Pet. Co. 21.
23-21-15 Robertshaw, Magnolia Pet. Co. 21.
9-17-16 Florsheim, Owl Oil Co. 4.
4-17-16 Wilburn, Owl Oil Co. 3.
28-21-15 State, Shreveport Oil Corp. 1.
18-20-15 Schmidt, Simplex Oil Co. 2.
34-21-16 Hart, Standard Oil Co. 13.
33-21-16 Stiles, Standard Oil Co. 186.
9-14-16 Hines, Tubbs et al. 1.

Wells Drilling

30-16-12 Gayle, Arkansas Natural Gas Co. 8.
12-19-16 Elliott, Askew et al. 1.
4-17-16 Wilburn, Bahan & Bahan 2.
18-21-15 Bunker & Tompkins, J. W. Burton 16.
33-21-16 Fee, W. D. Chew 6.
14-21-16 Files & Mabry, Dixie Oil Co. B-5.
14-21-15 Fitzsimmons, Dixie Oil Co. 8.
13-21-15 Noel, Dixie Oil Co. A-2.
13-21-15 Robertshaw, Dixie Oil Co. 88.
27-21-15 Slattery, Dixie Oil Co. 10.
15-21-15 Spell, Dixie Oil Co. 10.
5-20-16 Rives, Dobson et al. 5.
31-21-16 Levee Board, Empire G. & F. B-1.
17-21-14 Taylor, Gilliam Syndicate 1.
29-20-16 Ferry Lake, Gulf Ref. Co. 269.
14-21-15 Tyson, Gulf Refining Co. 13.
14-20-16 Wemple, Gulf Refining Co. 5.
27-18-16 Glassell, B. A. Hardy 1.
14-21-16 Murray, Hayes Brothers 1.
22-21-15 Raimes, Lewis Oil Corp. 18.
23-22-15 Levee Board, Luby Oil Co. 15.
8-20-15 Cafido, Magnolia Pet. Co. 2.
24-21-15 Caldwell, Magnolia Pet. Co. 4.
24-21-15 Dillon, Magnolia Pet. Co. 16.
4-17-16 Bell, Magnolia Petroleum Co. 1.
23-21-15 Robertshaw, Magnolia Pet. Co. 20.
22-18-16 Sharp, Marshall Natural Gas Co. 1.
32-23-16 Aaron, Ohio Oil Co. 1.
12-21-15 Smith, Ohio Oil Co. 25.
27-21-15 State, Shreveport Oil Corp. 2.
34-21-16 Hart, Standard Oil Co. 12.
33-21-16 Stiles, Standard Oil Co. 184.
23-21-15 Caddo, M. L. Co., The Texas Company 47.
14-20-15 Curtis, The Texas Company 7.
14-21-15 Noel, The Texas Company B-13.
31-21-15 Muslow, Thoil Oil Co. 3.

Shut Down

1-20-16 Offenhauser, Bethany O. & G. 1.
27-20-15 Schmidt, Falcon Drilling Co. 1.
35-23-16 Payne, J. B. Files 1.
17-21-14 Sellington, Gilliam Syndicate 1.
Rigs and locations, 15; wells drilling, 36; total, 51.

CALDWELL PARISH

Shut Down

5-13-5e Caldwell, Southern Crude Oil Purchasing Co. 8.
Rigs, 0; wells drilling, 0.

CATAHOULA PARISH

Rigs

21- 9-7e Tensas Delta, S. D. Hunter 2.

Shut Down

26- 9-6e Bessley, Lochnager O. & R. Co. 1.
Rigs, 1; wells drilling, 0; total, 1.

CLAIBORNE PARISH

Wells Drilling

23-19- 7 Wilburn, Mitchell & Jensen 1.
16-22- 8 Lee, Magnolia Pet. Co. 1.
21-23- 7 Maddox, Tate et al 1.
Rigs, 0; wells drilling, 3; total, 3.

DE SOTO PARISH

Rig

3-10-11 Glauque, Beery & LeGrande 1..

Wells Drilling

5-11-11 Lanier, Hoosier Oil Co. 1.
17-10-12 Logan, Magnolia Petroleum Co. 1.
8-11-14 Jones, Reliance Drilling Co. 1.
11-10-13 Sebastian, Wm. Sebastian Syndicate 1.
26-13-12 Sample, The Texas Company C-15.
2-12-12 Wemple, The Texas Company A-12.

Shut Down

9-12-11 Jenkins, Dixie Oil Co. 1.
28-11-12 Joyner, Helm & Jarman 1.
18-10-12 Robertson, Selp et al. 1.
Rigs, 1; wells drilling, 6; total, 7.

FRANKLIN PARISH

Well Drilling

20-13-7e Duncan, Hall & Harrell 1.

Shut Down

3-15-7e Baker, Barbour Oil Co. 1.
Rigs, 0; well drilling, 1; total, 1.

GRANT PARISH

Rigs and Location

38- 7-1e Bannon, Tunica Pet. Co. 1.
25- 9-2w L. & A. Humble O. & R. Co. A-14.

Shut Down

10- 7-4w Bliss & Williams, Rue et al. 1.
Rigs and locations, 2; wells drilling, 0; total, 2.

JACKSON PARISH

Shut Down

5-15-1e Martin, Charles A. Ferguson 1.
22-17-4w Adams, Grigsby & Co. 1.
34-15-3w Horton, Clarence Houseman 1.
Rigs, 0; wells drilling, 0.

LaSALLE PARISH

Rigs

2- 9-1e Gibson, Wingfield et al. 2.

Wells Drilling

7-10-2e Urania, A. E. Hudson 5.
30-10-2e Tremont, Louisiana O. R. Corp. 1-B.
9- 7-2e L. & A., Tunica Petroleum Co. 28.
9- 7-2e Hardtner, Tunica Petroleum Co. 1.
2- 9-1e Gibson, Wingfield et al. 1.

Shut Down

9- 7-2e L. & A., Tunica Petroleum Co. 27.
9- 7-2e Whatley, Tunica Petroleum Co. 1.
8-10-2e Urania, Yearly & Bristol 5.
Rigs, 1; wells drilling, 5; total, 6.

MONROE DISTRICT

Rigs and Locations

5-21-7e Gladney, Falcon Drilling Co. 1.
21-23-7e Crossett, Natural Gas Products 20.
26-20-5e Atkins, United Carbon Co. 1.
31-20-5e Fee, Ladell Properties, Inc. 41.
49-20-4e Moore, Peerless Co. 3.
23-20-3e Parks, Interstate Natural Gas Co. 1.

Wells Drilling

16-20-4e White, Consolidated Carbon Co. 1.
29-21-5e Townsend, United Carbon Co. 1.
1-19-4e Fee, Ladell Properties, Inc. 39.
29-20-5e Fee, Ladell Properties, Inc. 40.
25-19-2e Millsaps, Palmer Corp. 4.

Shut Down

10-18-5e Williams, Consumers Gas Co. 1.
25-19-2e D'Arbonne, Ouachita Natural Gas Producing Co. 2.
21-22-1e Tugwell, C. E. Camette 1.
8-23-1e Frost Johnson, Clark Creek Oil 2.
Rigs and locations, 6; wells drilling, 5; total, 11.

NATCHITOCHES PARISH

Well Drilling

23-13-6w Thomas, Ohio Oil Co. 1.

Shut Down

23- 5-6w Clark Morse Lumber Co., Lawson & Pharris 1.
10-11-8w Blewer, E. O. Readheimer 1.
Rigs, 0; wells drilling, 1; total, 1.

RAPIDES PARISH

Well Drilling

38- 5-4w Ditchie, George Pebatier et al. 1.

Shut Down

7- 5-3w Wettermack, Minnesota Oil Corp. 1.
Rigs, 0; well drilling, 1; total, 1.

RED RIVER PARISH

Well Drilling

24-13-11 Kennedy, Gulf Refining Co. 23.

Shut Down

13-11-10 Powell, Alden Oil Co. 1.
Rigs, 0; well drilling, 1; total, 1.

RICHLAND PARISH

Rigs

35-17-5e Seibert, Gulf Refining Co. 1.
10-14-5e Tensas, Helm et al. 1.

Wells Drilling

5-16-6e Rhymes, Gulf Refining Co. 2.
5-16-6e Earle, Ruston Drilling Co. 1.

Shut Down

3-17-9e Hawley, Aarnes et al. 1.
11-16-5e Seibert, Gulf Refining Co. 2.
36-17-5e Wayne, Gulf Refining Co. 1.
1-16-5e Seibert, S. D. Hunter 1.
22-17-6e Binion & Sartor, Louisiana Pet. 1.
2-15-5e Richard Hatch, Harry E. Oliver et al. 1.
22-16-7e Delta Hardwood Co., Standard Drilling Co. 1.
1-15-6e Broughton, Texas-Louisiana Carbon Co. 1.
Rigs, 2; wells drilling, 2; total, 4.

SABINE PARISH

Rigs and Locations

33-10-12 Horn, Arkansas Fuel Oil Co. 1.
23-10-13 Logan, Arkansas Fuel Oil Co. A-1.
8- 7-13 Sabine Lumber Co., L. M. Emlet 1.
5- 9-12 Reese, Morgan et al. 1.

Wells Drilling

28-10-12 Logan, Arkansas Fuel Oil Co. 2.
33-10-12 Logan, Arkansas Fuel Oil Co. 6.
33-10-12 Logan, Arkansas Fuel Oil Co. 7.
33-10-12 Logan, Arkansas Fuel Oil Co. 8.
33-10-12 Logan, Arkansas Fuel Oil Co. 9.
32-10-12 Moore, Arkansas Fuel Oil Co. 1.
5- 9-12 Rembert, Arkansas Fuel Oil Co. 1.
33-10-12 Williams, Arkansas Fuel Oil Co. 1.
9- 7-12 Bowman, L. M. Emlet 5.
8- 7-12 Bowman, L. M. Emlet 6.
14- 7-14 Bowyman, L. M. Emlet 7.
16- 7-12 Bowman, L. M. Emlet 8.
28-10-12 Dogan, Louisiana O. & R. Corp. 1.
23- 5-12 Wyatt, Lewis Clark Pet. Co. 1.
33-10-12 Hall, Magnolia Pet. Co. 1.
2- 6-11 La. L. L. L. Co., Magnolia Pet. Co. 1.
6- 9-13 Hamlin, C. W Robinson et al. 1.
33-10-12 Robinson, Woodley Pet. Co. 1.
Rigs and locations, 4; wells drilling, 18; total, 22.

WEBSTER PARISH

Rigs and Locations

21-21-10 Marshall, Magnolia Pet. Co. 2.
32-23- 9 Obier, Magnolia Petroleum Co. 1.
22-21-10 Banks, Ohio Oil Co. 2.
23-21-10 Cox, Woodley Petroleum Co. B-1.

Wells Drilling

28-21-10 Gray, Louisiana Oil Ref. Corp. 7.
23-21-10 Cox, Magnolia Petroleum Co. 3.
21-21-10 Marshall, Magnolia Petroleum Co. 1.
22-21-10 Coyle, Northwest Louisiana Gas 1.
22-21-10 Banks, Ohio Oil Co. 4.

Shut Down

22-22- 9 Lee, M. E. Davis et al. 1.
Rigs and locations, 4; wells drilling, 5; total, 9.

WINN PARISH

Rigs and Locations

3-10-2w L. & A., Humble O. & R. Co. 23-A.
26-11-1e Urania, Rowe et al. 1.

Wells Drilling

28-13-3w Milam, J. C. Long 1.
5-12-1w McCarty, Ohio Oil Co. 1.
19-11-3w Southern Mineral Co. 1.
1-12-2w Tremont, Standard Oil Co. 1.

Shut Down

27-10-1e Albritton, Cherokee Pet. Co. 1.
35-13-3w Tremont, Dodge & Cordell 1.
9-11-4w Bodcau, Greer & Gault 2.
27-10-1w Tremont, H. L. Hunt 1.
27-10-1e Albritton, F. A. Schuman 1.
Rigs and locations, 2; wells drilling, 4; total, 6.

ARKANSAS

UNION COUNTY

Rigs

4-16-15 Murphy, Gulf Refining Co. 45.
10-16-15 Lawton, E. M. Jones 2-A.
17-16-15 Murphy, E. M. Jones 10.
9-16-15 Murphy, Keen & Woolf 6.
8-16-16 Crawford, Magnolia Co.
8-16-16 Laney, Magnolia Petroleum Co. 3.
8-16-16 Laney, Magnolia Petroleum Co. 4.
8-16-16 Murphy, Magnolia Petroleum Co. 3.
17-16-15 Wilson, Magnolia Petroleum Co. 7.
15-17-16 Harrell, Rovenger Oil Corp. 4.
3-16-15 Roper, Unity Petroleum Co. 15.
15-19-13 Greer, Wingfield et al. 1.

Wells Drilling

8-16-16 Fee, G. J. Childs B-2.
7-18-13 Union Saw Mill Co., Garrett Modisette Dlg. Co. 1.
9-16-15 Flenniken, Humble, Oil & Refg. Co. B-2.
10-16-15 Pate, Humble Oil & Refg. Co. 10.
11-17-13 Stegall, Lyell et al. 1.
8-16-15 Murphy, Magnolia Petroleum Co. 9.
21-16-16 Union Lumber Co., Magnolia Pet. 1.
17-16-15 Wilson, Magnolia Petroleum Co. 6.
11-18-13 Wynn Estate, Marine Oil Co. 1.
8-18-15 Pratt, Mountz et al. 6.
17-16-15 Vestal, Murdock et al. 1.
9-16-15 Murphy, National Gas & Fuel E-3.
9-16-15 Murphy, National Gas & Fuel F-5.
1-17-14 Crain, Ohio Oil Co. 1.
9-16-15 Murphy, Ohio Oil Co. 5.
10-16-15 Lawton, Sam Richardson 5.
4-17-14 McCain, Rovenger Oil Corp. 1.
15-16-15 Wells, Southern Crude Oil Purchasing Co. A-5.
3-16-15 Hays, Sun Co. 3.
10-18-13 Thompson, Sun Co. 1.
12-17-15 Ezzell, Vaughan et al. K-1.

Shut Down

8-19-13 Howard, Allison et al. 1.
8-18-12 Garner, Bonderant et al. 1.
2-17-16 Slaughter, Brown et al. 1.
5-16-16 Saxon, Crescent Pet. Co. 1.
1-16-17 Hodges, W. H. Gilliland B-1.
21-18-12 Dykes, H. L. Hunt 1.
26-17-16 Goodwin, Imperial Oil & Refg. 1.
9-16-15 Murphy, Imperial Oil & Refg. 5.
8-16-16 Fagg, National Consolidated Pet. 1.
8-16-16 Fass, National Consilidated Pet. 2.
16-16-16 Saxon, J. J. O'Brien 1.
13-17-16 Newton, Rice et al. 1.
14-16-15 Murphy, Sam Richardson M-2.
Rigs, 12; wells drilling, 21; total, 33.

OUACHITA COUNTY

Rigs

4-16-15 Berg, Exchange Oil Co. 7.
4-16-15 Berg, Exchange Oil Co. 8.
28-14-16 Stout, Magnolia Petroleum Co. B-1.

Wells Drilling

33-15-16 Johnette, F. A. Book 3.
4-16-15 Berg, Exchange Oil Co. 2.
4-16-15 Berg, Exchange Oil Co. 3.
4-16-15 Berg, Exchange Oil Co. 4.
4-16-15 Berg, Exchange Oil Co. 6.
4-16-15 Umstead, Exchange Oil Co. 3.
21-14-17 Reynolds, A. T. Grayson 1.
8-16-15 McClanahan, Imperial O. & G. Producing Co. 9.
36-15-17 Shirey, Middlesex Oil 5.
33-15-15 Berry, Sunny Jim Oil Co. 12.
33-15-15 Umstead, Unity Pet. Co. 8-A.
7-15-19 Morgan, Magnolia Pet. Co. 1.

Shut Down

13-15-17 Berg, Copenhaven et al. 3.
3-14-18 Chandler Estate, J. G. Reynolds 1.
28-15-16 Schoolhouse, A. M. Sutton 2.
Rigs, 3; wells drilling, 12; total, 15.

COLUMBIA COUNTY

Rig

15-17-22 Gantt, F. R. Baier et al. 1.

Wells Drilling

23-17-20 Couch, Atlantic Oil Producing Co. 1.
23-18-19 Duffer, Golquitt & Thomas 1.
14-19-23 Whitehead, Columbia Oil Syndicate 1.
4-20-21 Bodcau, Mitchell & Eylers 2.

Shut Down

29-19-22 Franks, Mitchell et al. 1.
3-16-21-Runyon, Mitchell et al. 1.
6-18-20 Davis, Scott Phillips 2.
35-19-19 Duffer, Smith & Compton 1.
40-20-21 Bodcau, Wingfield & Mitchell 1.
Rigs, 1; wells drilling, 4; total, 5.

NEVADA COUNTY

Wells Drilling

12-14-21 Groves, Greason et al. A-1
1-14-21 Moss, J. J. O'Brien 1.
2-14-21 Ellis, Ozan Drilling Co. 6.

Shut Down

9-14-21 Atkins, Advance Oil Co. 1.
11-14-21 Wallace, Holmes et al. 1.
Rigs, O; wells drilling, 3; total, 3.

MISCELLANEOUS

Wells Drilling

12-12-12 Southern, Johnston & Adams 1.
2-13-14 Stout, Arkansas Natural Gas Co. 1.
35-10-20 Burrow, Whelen Oil Co. 1.
34-10-26 Goodlet, Arkansas Natural Gas Co. 1.
28-15-26 Dale, Lenz et al. 2.

Shut Down

31-10-10 Hall, Kingland Oil Co. 1.
35-13- 5 Olga, McClintock & Goodka 1.
5-14-11 Meek, Jones & Watkins 1.
23-10-25 Garland, Burton et al. 1.
3-20-24 Red River, Kensaw Pet. Co. 2.
33-10- 6 Carter, Pine Prairie Oil Co. 1.
4-13-31 Waldrop, Greason et al. 1.
2-13-31 Allen, Grote et al 1.
10-11-31 Hawkins, Mellick Oil Co. 1.
26-14-27 Priest, W. D. Nash et al. 1.
Rigs, 0; wells drilling, 5; total, 5.

GULF COAST FIELDS

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tl.
Boling	1	0	1	0	2	4	6
Batson	2	0	2	0	0	2	2
Big Creek	3	4,700	1	0	1	3	4
Blue Ridge ..	9	4,725	3	0	0	4	4
Barber Hill ..	1	0	1	0	1	3	4
Edgerly (La.)	1	1,500	0	0	1	4	5
Goose Creek .	3	80	1	0	1	5	6
Humble	1	0	1	0	1	3	4
Hull	7	3,335	1	0	1	8	9
High Island .	1	0	1	0	0	1	1
Jennings (La.)	6	75	4	0	0	2	2
Lockport (La.)	3	400	1	0	0	9	9
Markham	4	360	2	0	0	4	4
Nash	0	0	0	0	0	3	3
Orange	5	2,815	1	0	1	3	4
Orchard	1	2,300	0	0	0	1	1
Pierce Jct. ..	6	5,850	2	0	1	12	13
Piedras Pintas	0	0	0	0	0	1	1
Spindletop ...	16	23,300	5	1	7	21	28
Saratoga	2	15	0	0	1	1	2
Sour Lake	3	10	2	0	0	0	0
South Liberty-Dayton	3	170	1	0	0	3	3
Stark (La.) .	0	0	0	0	0	2	2
Vinton	4	240	0	0	1	3	4
W. Columbia..	0	0	0	0	0	1	1
Miscellaneous.	16	1,500	15	0	10	53	63
Total May .	98	51,375	45	1	29	156	185
Total Apr...	107	58,060	38	1	45	211	256
Difference..	9	6,685	7	0	16	55	71

WELLS COMPLETED

BOLING

Felder, The Texas Company 3 ..... abd

Wells completed and abandoned.... 1

BATSON

LaJarza, The Texas Company 3 ..... abd
Hooks, Sterling Oil 6 ..... Sw

Wells completed 2
Abandoned and salt water 2

BIG CREEK

Fee, The Texas Company 4 ..... Sw
Davis, Gulf Prod. 41 4500
J. H. P. Davis, Gulf Prod. 1 200

Wells completed 3
Production 4700
Salt water 1

BLUE RIDGE

Blakely, Gulf Prod. 15-C 50
Robinson, Abercrombie Prod. 1-A ..... abd
West-Schenck, Gulf Prod. 10 1800
Fee, Woodruff, trustee 1 ..... Sw
Robinson, Navarro Oil 1-A 2200
Invincible, Gulf Prod. 5 75
Luscher, Gulf Prod. 10 200

West-Schenck, Abercrombie Prod. 9 ... dry
West-Schenck, Humphreys Oil 3 400
Wells completed 3
Production 4725
Abandoned and salt water 3

BARBER HILL

Kirby, Humphreys Corn 1-B ..... abd

Wells completed and abandoned ... 1

EDGERLY

Paraffine, Hercules Oil 1 1500

Wells completed 1
Production 1500

GOOSE CREEK

Duke, Lake Shore Oil 3 20
Smith, Gulf Prod. 27 60
Smith, Humble Oil & Ref. 56 ..... abd

Wells completed 3
Production 80
Abandoned 1

HUMBLE

Hirsch, Benedum & Trees - ..... abd

Wells completed and abandoned ... 1

HULL

Thomas, Gulf Prod. 10 95
Phoenix, Gulf Prod. 64 (wo) 2000
Hannah, The Texas Company 2 ..... abd
Harrison, Hull Oil 2 50
Phoenix, Gulf Prod. 59 (wo) 1000
Dolbear, Republic Prod. 98 100
Harrison, Hull Oil 2 90

Wells completed 7
Production 3335
Abandoned 1

HIGH ISLAND

Lockwood, The Sun Co. 12 ..... abd

Wells completed and abandoned ... 1

JENNINGS

Latrielle, The Texas Company 103 ..... abd
SFS, Bolyard Oil 4 ..... abd
Pierce, Mentau Oil 2 ..... abd
SFS, Port City Oil 2 ..... abd
Conklin, Cline & Son 5 30
Smith, Ratcliffe & Seiss 1 45

Wells completed 6
Production 75
Abandoned 4

LOCKPORT

Bordages, Vacuum-Gulf 3 200
Miller, Vacuum-Gulf Cos. 16 ..... Sw
Farquhar, Vacuum-Gulf Cos. 1 200

Wells completed 3
Production 400
Salt water 1

MARKHAM

Myers, Powers Prod.-Moody Corp. 3 ... abd
Kountz, Rycade Pet. 4 ..... abd
Myers, Hamill-Moody Corp. 1 (wo) 100
Myers, Rycade Pet. 3 260

Wells completed 4
Production 360
Abandoned 2

ORANGE

Carbello, Rex Pet. 14 115
Chesson, Texhoma Oil 16 ..... Sw
Granger, Gulf Prod. 1 (wo) 1200
Cow Bayou, Rycade Pet. 5-B 1500

Wells completed 5
Production 2815
Salt water 1
Gas 1

ORCHARD

Moore, Gulf Prod. Co. 2300

Wells completed 1
Production 2300

PIERCE JUNCTION
Sanders, Gulf Prod. 1 3000
Settegast, Rio Bravo Oil 7 1500
Humble, Navarro Oil 1 ..... abd
Cain, Navarro Oil 1 (wo) 150
Prudent, Navarro Oil 2 (dpnd) 1200
Whitehead, Moody Oil 1 ..... abd

Wells completed 6
Production 5850
Abandoned in salt 2

SPINDLETOP
Roche,Gulf Prod. 7 100
Rush, Deep Sand Oil 1 ..... abd
McLean, Sun Oil 9 4500
McFaddin, Yount Lee Oil 29 ..... gas
Gordon, Hines Oil 1 ..... abd
McLean, Sun Oil 4 ..... abd
McLean, Atlantic Oil Prod. 11 ..... abd
Price, Sun Oil 1 200
Price, Sun Oil 2 3000
McLean, Sun Oil 10 2000
Fee, Yount Lee Oil 13 4000
Fee, Yount Lee Oil 23 1000
Fee, Yount Lee Oil 25 2500
Fee, Yount Lee Oil 32 1000
Oakwood, Gulf Prod. 10 5000

Wells completed 16
Production 23,300
Abandoned and salt water 5
Gas 1

SARATOGA
Teel, Weldon Oil 4 10
Texas Crude, Sun Oil 174 5

Wells completed 2
Production 15

SOUR LAKE
Lynn, M. E. Peveto 2 10
Geiscke, Humphreys Corp. 1 ..... abd
Homestake, The Texas Company 1 .... abd

Wells completed 3
Production 10
Abandoned 2

SOUTH LIBERTY-SOUTH DAYTON
Welder, Humble Oil & Ref. 7 ..... abd
Bingle, Gulf Prod. 1 20
Marshall, Gulf Prod. 1 150

Wells completed 3
Production 170
Abandoned 1

VINTON
Vincent, The Texas Company 18 75
Rescue, Vinton Pet. 12 10
Gray, Marrs McLean 8 140
Rescue, Vinton Pet. 6 (wo) 15

Wells completed 4
Production 240

MISCELLANEOUS
Brazoria County, Allen Dome—
Allen, Roxana Pet. 3 ..... abd
Poole, Roxana Pet. 1 ..... abd
Pabst, Roxana Pet. 2-A ..... abd
Bernard River, Roxana Pet. 1 1500
Paddock, The Texas Company 1 ..... abd
Fort Bend County, Long Point Dome—
Wolfe, Gulf Prod. 2 ..... abd
Trone, Gulf Prod. 2 ..... abd
Harris County—
Burt & Griffith, Atlantic Oil Prod. 1... abd
Grimes County—
Near Iola, Rassmussen et al's No. 2.... abd
Goliad County—
Parks, Houston Oil 2 ..... abd
Jefferson County—
Edmond Tatee, trustee, 1 ..... abd
Matagorda County, Hawkinsville Dome—
Parkins, Gulf Prod. 3 ..... abd

SOUTH LOUISIANA
Cameron Parish, Hackberry Dome—
Gulf, Yount Lee Oil 10 ..... Sw
Little, Union Sulphur 1 ..... abd
Jeff Davis Parish—
La Casine, F. I. Getty 1 ..... abd
St. Martin Parish—
Atchafayala, Rycade Pet. 1 ..... abd

RIGS AND WELLS DRILLING
BOLING
Rigs
Bey, Weed & Gale 1.
Wytak, Weed & Gayle 1.
Wells Drilling
Felder, Sun Oil 3.
Aberdroth, Gulf Prod. 1, 2.
Chase, Gulf Prod. 4*.
Rigs, 2; wells drilling, 4; total, 6.
BATSON
Wells Drilling
Colorado, Dreushell Oil 1.
Hooks, Sterling Oil 6.
Wells drilling, 2; total, 2.
BIG CREEK
Rig
Fee, The Texas Company 2.
Wells Drilling
Wheat, The Texas Company 1.
J. H. Davis, Gulf Prod. 1.
T. W. Davis, Gulf Prod. 29.
Rigs, 1; wells drilling, 3; total, 4.
BLUE RIDGE
Wells Drilling
Blakely, Overly Prod. 1.
Robinson, Navarro Oil 2-A.
Blakely, Gulf Prod. 9-B.
West-Schenck, Gulf Prod. 11.
Wells drilling, 4; total, 4.
BARBER HILL
Rig
———, Barclay & Meadors 3.
Wells Drilling
Kirby, Humphreys Corp. 4-B.
Kirby, Bennett 4.
Kirby, Humble O. & R. 2.
Rigs, 1; wells drilling, 3; total, 4.
EDGERLY
Rigs
Hunter, Rex Pet. 6.
Wells Drilling
Hunter, Rex Pet. 5.
Lilliard, Crotty Oil 12.
Bright-Penn, Gulf Prod. 41.
Higgins, Gulf Prod. 8-B.
Rigs, 1; wells drilling, 4; total, 5.
GOOSE CREEK
Rigs
Smith, Humble O. & R. 72.
Wells Drilling
Smith, Humble O. & R. 71.
Beaumont, Humble O. & R. 10.
Galliard, Gulf Coast Oil 35.
Busch, Wilson et al 7.
Chapman-Bryan, Gulf Prod. 14.
Rigs, 1; wells drilling, 5; total, 6.
HUMBLE
Rigs
Burt & Griffith, Gulf Prod. 1.
Wells Drilling
Hirsch, Benedum & Trees 1.
Cherry, Webb Oil 26.
B. & G., Atlantic Oil Prod. 1.
Rigs, 1; wells drilling, 3; total, 4.
HULL
Rigs
Hannah, Vacuum-The Texas Company 7.
Wells Drilling
Dolbear, Republic Prod. 33, 34.
Taylor, The Texas Company 3.
Hannah, Texas-Vacuum Oil 5.
Taylor, Mecom Oil 2.
Barngrover, Empire G. & F. 25.
Palmer, Big Dome Co. 1.
Phoenix, Gulf Prod. 36.
Rigs, 1; wells drilling, 8; total, 9.
HIGH ISLAND
Wells Drilling
Cade, Sun Oil 11.
Wells drilling, 1; total, 1.
JENNINGS
Wells Drilling
Rayne, The Texas Company 1.
Pierce, Mentau Oil 2.
Wells drilling, 2; total, 2.
MARKHAM
Wells Drilling
Gray, Rycade Pet. 4.
Gray, Hamill et al 2.
Kountz, Deering et al.
———, Moody Oil 1.
Wells drilling, 4; total, 4.
LOCKPORT
Wells Drilling
Miller, Vacuum-Gulf 15, 16, 17, 11.
Bordages, Vacuum-Gulf 2.
Bayou, d'Inde, Vacuum-Gulf 3.
Farquhar, Vacuum-Gulf 5, 6.
Friedberg & Wolf, Vacuum-Gulf 4.
Wells drilling, 9; total, 9.
NASH
Wells Drilling
Wisdom, Rycade Pet. 15.
Nash, Rycade Pet. 9, 11.
Wells drilling, 3; total, 3.
ORANGE
Rigs
State land, Tillery Oil 3.
Wells Drilling
Peveto, Gulf Prod. 11.
Granger, Gulf Prod. 4.
Chesson, Texhoma Oil 16.
Rigs, 1; wells drilling, 3; total, 4.
ORCHARD
Wells Drilling
Moore, Gulf Prod. 8.
Wells drilling, 1; total, 1.
PIERCE JUNCTION
Rigs
Settegast, Rio Bravo Oil 8.
Wells Drilling
Settegast, Rio Bravo Oil 5, 6, 7.
Bender, J. F. Bashara 2.
Jones, M. Kouri 2
Whitehead, Anderson & Plummer 1.
Jones, Gulf Prod. 3.
Taylor, Gulf Prod. 20.
Dolley, Texas Expltn. 10.
Prudent, Marland Oil 1 dpng.
Settegast, Lee & Woodward 2.
Howe, H. R. Cullen 8.
Rigs, 1; wells drilling, 12; total, 13.
PIEDRAS PINTAS
Wells Drilling
———, Humble O. & R. 3 sd.
Wells drilling and shut down, 1; total, 1.
SPINDLETOP
Rigs
McLean, Sun Oil 15, 11.
Fee, Magnolia Pet. 6.
Gladys, Kinnear Oil 1.
Deutger Multiple Oil 1.
Oakwood, Gulf Prod. 12.
Gladys, Yount Lee Oil 34.
Wells Drilling
Glayds, Yount Lee Oil 1 dpng.; 26, 28, 29, 30.
McFaddin, Yount Lee Oil 13, 29, 31, 33, 34, 35.
Fee, Yount Lee Oil 6, 15.
McLean, Sun Oil 10, 12, 13, 14.
Price, Sun Oil 1 dpng.
McLean, Gulf Prod. 3, 5, 8.
Mann, Gulf Prod. 7.
Oakwood, Gulf Prod. 11.
Fee, Magnolia Pet. 3, 5.
Tank Farm, Magnolia Pet. 1.
Gordon Hines Oil 2.
T. & N. O., Rio Bravo Oil 50.
Garrick, The Texas Company 1.
McLean, Grayburg Oil 1.
Gladys, J. O. Davis 1.
Rigs, 7; wells drilling, 30; total, 37.
SARATOGA
Rigs
Cotton, Cove O. & G. 1.
Wells Drilling
Ogden, East Side Oil 1.
Rigs, 1; wells drilling, 1; total, 2.
SOUTH LIBERTY-SOUTH DAYTON
Wells Drilling
Staitl, The Texas Company 2.
Harrison, Navarro Oil 2.
Marshall, Gulf Prod. 2.
Wells drilling, 3; total, 3.
STARK
Wells Drilling
Lutcher-Moore, Gulf Refg. 5.
Industrial Lumber, Gulf Refg. 1.
Wells drilling, 2; total, 2.
VINTON
Rigs
Rescue, Vinton Pet. 7.
Wells Drilling
G. N. G., Gulf Refg. 43.
Star, Gulf Refg. 39.
———, Marrs McLean 7.
Rigs, 1; wells drilling, 3; total, 4.
WEST COLUMBIA
Wells Drilling
Arnold, The Texas Company 23.
Wells drilling, 1; total, 1.
MISCELLANEOUS
ANGELINA COUNTY
Rigs
Long Bell Lumber, Roxana Pet. 9.
Rigs, 1; total, 1.
AUSTIN COUNTY
RACCOON BEND DISTRICT
Wells Drilling
Reese, Humble-Valley Oil 2.
School land, Humble Oil-Valley Oil 1.
Cleveland, R. E. Graves 1.
Knolle, Knox et al 1.
Mewis, Mewis et al 1.
Wells drilling, 5; total, 5.
BRAZORIA COUNTY
Rigs
Allen Dome: Allen, Roxana Pet. 4.
Carter, The Texas Company 1.
Wells Drilling
Clemens Dome: Clemens, Roxana Pet. 4.
Pabst, Roxana Pet. 2-B.
Stratton Ridge: Perry, Gulf Prod. 2.
Seaburn, Associated Oil 1.
Armstrong, Pure-Humphreys Co. 1.
Anchor, Staley et al 1.
Hinkle Ferry, Stark et al 1.
BRAZOS COUNTY
Rigs
McKinney, Fountain & McAshan 1.

ROCKY MOUNTAIN AREA

MONTANA
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Kevin-Sunb'rst	23	1,650	8	0	4	60	64
Cat Creek Misc.	3	0	0	0	3	71	74
Total May...	26	1,650	8	0	7	131	138
Total April..	29	4,494	10	2	8	125	133
Difference ..	3	2,844	2	2	1	6	5

WYOMING
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy	0	0	0	0	0	4	4
Salt Creek	27	44,767	1	0	10	57	67
Lance Creek ..	0	0	0	0	0	1	1
Big Horn Basin	0	0	0	0	3	53	56
Lost Soldier and Carbon Co. .	1	0	0	1	1	18	19
Rock Riv. Dist.	1	0	1	0	0	7	7
Fremont Co. ..	0	0	1	0	1	21	22
Osage	0	0	0	0	2	3	5
Natrona Co. ..	0	0	0	0	0	6	6
Lincoln-Unitah Counties	2	375	0	0	9	43	52
Baxter Basin .	0	0	0	0	0	7	7
Misc.	0	0	0	0	2	24	26
Total May...	32	45,142	2	1	28	244	272
Total April..	31	18,978	7	1	29	257	286
Difference ..	1	26,164	4	0	1	13	14

COLORADO
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total May...	12	100	11	0	7	98	105
Total April..	9	2,700	5	0	10	89	99
Difference ..	3	2,600	6	0	3	9	6

UTAH
Summary of Field Operations

Total May..	2	0	2	0	1	36	37
Total April..	1	0	1	0	1	38	39
Difference ..	1	0	1	0	0	2	2

NEW MEXICO
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total May ..	11	20	9	0	11	124	135
Total April..	7	140	2	0	11	124	135
Difference ..	4	120	7	0	0	0	0

BIG MUDDY
Wells Drilling
9-33-76 Whiteside, Continental Oil Co. 55.
8-33-76 Humphrey, Continental Oil Co. 44.
8-33-76 Humphrey, Continental Oil Co. 39.
Shut Down
9-33-76 Crary, Texas Prod. Co. 33.
Rigs, 0; wells drilling, 4; total, 4.
SALT CREEK
Rigs
17-39-78 SE, Argo Oil Co. 1-A.
34-39-78 NW, Mammoth Oil Co. 302.
34-39-78 NW, Mammoth Oil Co. 305.
28-39-78 NW, Mammoth Oil Co. 405.
28-39-78 NE, Mammoth Oil Co. 406.
13-38-78 SW, Teapot Oil Syndicate.
16-39-78 NE, Nicholaysen et al.
10-38-78 NW, Mammoth Oil Co. 302.
31-39-78 SE, Teapot Dev. Co.
5-39-78 NW, Carter Oil Co. 24-A.
Wells Drilling
34-40-79 NE, Wyoming Asso. 24.
26-40-70 NW, Wyoming Asso. 15.
35-40-79 SW, Midwest Oil Co. 33.
14-40-79 NE, Midwest Oil Co. 21-A.
12-40-79 SE, Mt. and Gulf, 16-A.
12-40-79 SE, Mt. and Gulf 36-A.
26-40-79 SE, Wyoming Asso. 21-L.
11-39-79 SW, E. T. Williams Oil Co. 8.
26-40-79 NW, Wyoming Asso. 22-L.
24-40-79-SW, Wyoming Asso. 6-L.
35-40-79 SW, Midwest Oil Co. 24-L.
23-40-79 NW, Wyoming Oil Fields 16.
27-40-79 SE, Midwest Oil Co. 13-L.
2-39-79 SE, Sinclair Wyoming 16-A.
26-40-79 NW, Wyoming Asso. 18-L.
26-40-79 NW, Wyoming Asso. 13-L.
24-40-79 SW, Wyoming Asso. 16.
26-40-79 NE, Wyoming Asso. 28.
26-40-79 SW, Midwest Oil Co. 4.
28-40-79 SW, Jupiter Oil Co. 34-S.
10-39-79 NE, Prairie Oil & Gas 4-A.
18-40-79 NW, Prairie Oil & Gas 6-A.
Shut Down
11-39-78 NE, Margolexon Oil Co. 1.
7-39-78 SE, Continental Oil Co. 31-A.
25-40-79 NW, Wyoming Asso. 24-L.
35-40-79 SW, Midwest Oil Co. 6-L.
25-40-79 NE, Wyoming Oil Fields 19-L.
26-40-79 NE, Wyoming Asso. 4-L.
35-40-79 SW, Midwest O.l Co. 31-L.
35-40-79 NE, Midwest Oil Co. 16-L.
23-40-79 SW, Midwest Oil Co. 1-L.
36-40-79 NE, Wyoming Oil Fields 36-L.
26-40-79 NE, Wyoming Oil Fields 22-L.
26-40-79 NE, Wyoming Asso. 31-L.
2-39-78 SE, Staley Foley Synd. 16-A.
35-39-78 SW, Staley Foley Synd. 16-A.
10-40-79 SE, Empire State Oil Co. 25-A.
28-39-78 NE, Mammoth Oil Co. 101.
29-39-78 NE, Mammoth Oil Co. 302.
28-39-78 NW, Mammoth Oil Co. 205.
4-39-78 NE, Mammoth Oil Co. 101.
23-39-79 NE, Evans Oil Corp.
32-40-79 SW, Jupiter Oil Co. 27-A.
23-40-79 SE, Midwest Oil Co. 15-L.
23-40-79 SE, Wyoming Oil Fields 4-L.
34-40-79 SW, Continental Oil Co. 35-A.
34-40-79 NW, Wyoming Asso. 34-L.
Rigs, 10; wells drilling, 47; total, 57.
LANCE CREEK
Well Drilling
7-35-65 Thompson, Wyoming & Montana Dev. Co.
Rig, 0; well drilling, 1; total, 1.
BIG HORN BASIN
Rigs
19-51-100 Fred Ostland et al 2.
5-47-90 Hetzler, Ohio Oil Co. 1.
13-46-89 Tensleep, Prod. & Refs. 1.
Wells Drilling
32-58-99 Tondole, Local Oil Co. 3.
7-51-100 Fred Ostland et al 2.
22-47-101 Taylor, Union Oil Co. 1.
9-51-100 Fred Ostland et al 1.
5-46-90 Nowood, Carter Oil Co. 1.
25-58-98 NW, V. M. Kirk.
24-51-93 SE, J. E. Scaion et al.
2-44-96 F. A. McPherson.
15-55-97 Lot 43, Standard of California.
31-48-90 Tensleep, Ohio Oil Co. 3.
11-40-90 Garry Oil & Dev. Co.
15-49-91 Shaffer & Tilley.
20-52-101 Washington Oil & Gas.
14-47-102 Big Horn Dev. Co.
21-53-101 Taylor Bros.
5-51-97 SW, C. M. Carroll et al.
9-54-95 SW, Wisconsin-Hines Co.
15-44-92 SW, F. L. Pierce.
-56-98 Elk Basin Oil & Gas.
23-43-94 SW, Wyoming Montana Oil Co.
17-46-86 Washakie, Ohio Oil Co.
8-43-91 Murphy Dome, Prod. & Refs. 1.
33-56-98 Cross Gas, Ohio Oil Co. 2.
Shut Down
18-46-98 Washakie, Ohio Oil Co. 4.
7-46-98 Washakie, Ohio Oil Co. 2.
19-51-100 SE, Fred Ostland et al 1.
28-43-91 NW, Union Oil Co. 1-A.
8-51-100 Sonners, Ohio Oil Co. 4.
35-47-97 NE, American Indian Oil Co.
3-56-98 Brown, Allen Oil Co. 2.
24-56-98 Garland, Prod. & Refs. 2.
13-46-98 Clark, Jess Crosby.
17-46-98 Dickerson, Tumador Oil Co.
25-58-99 Govt. land, Summit Oil Co. Ralph Arnold.
36-43-91 State, Utah Oil Refg. Co. 2.
5-42-90 Avery, Utah Oil & Refg. Co.
26-43-91 Ft. Collins, Utah Oil & Refg. Co.
26-43-91 Weller, Utah Oil & Refg. Co. 2.
28-44-93 West Zimmerman Butte Oil Co.
35-43-91 SW, Utah Oil Refg. Co. 3.
29-56-97 SW, Utah Southern Oil Co. 1.
29-56-97 NE, Utah Southern Oil Co. 2.
2-47-100 Midwest Refg. Co.
4-91-100 Florence Oil Co.
3-55-97 Griffin, Allen Oil Co.
8-46-97 Big Horn Dev. Co.
10-54-95 SE, Westland Oil Co.
35-55-95 Westland Oil Co.
11-49-102 Omar Oil Co.
19-51-92 Torchlight Oil Corp.
5-54-95 SW, Royal Oil & Refg. Co.
8-46-98 Grass Creek Prod.
34-43-92 C. D. Markham et al.
Rigs, 3; wells drilling, 53; total, 56.
LOST SOLDIER
Rig
12-19-87 Marland Oil Co.
Wells Drilling
10-26-90 Prairie Oil & Gas 61-A.
2-26-90 Utah O. & R. Co. 70-A.
7-26-99 H. P. Nutting.
29-26-87 Prod. & Refs. 3.
11-26-90 Wyo.-Ill., Prod. & Refs. 9.
25-26-87 Ferris, Prod. & Refs. 19.
Shut Down
25-26-28 Wyanas, Prod. & Refs. 19.
34-22-90 A. A. Akers.
28-21-86 Greenville, Prod. & Refs. 1.
3-26-90 Sand Hills Oil Co. 5.
4-26-90 Sand Hills Oil Co. 4.
8-26-89 E. R. Goode.
14-20-88 Lake Valley Oil Co.
26-25-89 NW, E. R. Goode.
21-26-86 Portland Wyoming 3.
29-26-86 Portland Wyoming 1, 2.
7-26-89 Prod. & Refs. 3.
ROCK RIVER
Wells Drilling
25-27-79 Producers & Refiners 1.
2-19-78 H. & C., Ohio Oil Co. 12.
3-19-78 H. & C., Ohio Oil Co. 5.
34-20-78 SE, M. L. Lundy.
Shut Down
12-18-77 Carbon County Oil Co.
12-27-77 McLaughlin et al.
36-19-78 Dutton Creek, Midwest Ref. Co. 34.
Rigs, 0; wells drilling, 7; total, 7.
FREMONT COUNTY
Rig
34-34-92 Muskrat, Prod. & Refs. 1.
Wells Drilling
26- 6- 2 Keenan, Texas Prod. Co. 7.
30- 1- 2 Megowan, Iowa Wyoming Oil Co.
10-32-95 Prod. & Refs. 5.
14-32-95 Riverton Pet. & Prod. & Refs. 7.
27- 6- 2 Maverick Drilling Co.
9-31-98 Martin F. Fold.
29-32-98 Frank England, trustee.
Shut Down
14-32-80 Mayers Pet. Co.
21- 1- 1 Wyoming Syndicate.
30- 1- 2 William M. Campbell.
27- 3- 1 Lot 4, Pilot Butte Oil & Gas 2.
28-34-90 SW, B. X. Ward.
21- 1- 1 Bridger Oil Co.
27- 3- 3 Kinney Coastal Oil Co.
17-33-94 Winter-Baker Interests.
16-27-95 Sage Creek Pet. Co.
3- 1- 2 Teton Pet. Co.
4-31-98 Derby Dome Wyoming.
4-31-98 Burnside Oil Co.
24-32-95 Seal Oil Asso.
24-32- 1 Prod. & Refs. 7.
Rig, 1; wells drilling, 21; total, 22.
OSAGE
Rigs
30-46-63-NE, Glenn Oil Co.
31-47-63 L. B. Hanson.
Shut Down
42-46-63 Wyoming Oil & Gas Co.
10-46-61 Lenhart & Briggs.
8-46-63 Griffith Oil Co.
Rigs, 2; wells drilling, 3; total, 5.
NATRONA COUNTY
Wells Drilling
4-29-81 Iowa Wyoming 13.
16-28-80 NE, Greybeal Syndicate.
3-33-83 Western Fargo Oil Co.
Shut Down
13-33-80 Wheeler, Millard et al.
3-13-85 Midwest Refg. Co. 3.
26-35-84 Harris & White.
Rigs, 0; wells drilling, 6; total, 6.
LINCOLN AND UINTAH COUNTIES
Rigs
31-28-113 Tip Top Oil Co.
12-29-113 Cretaceous Oil Co.
4-26-113 Wyoming Reserve Oil Co.
3-27-113 Lot 6, California Pet. Co. 6-D.
34-27-113 California Pet. Co. 5-H.
34-27-113 California Pet. Co. 41.
34-27-113 California Pet. Co. 51.
34-27-113 California Pet. Co. 10.
9-26-113 Transcontinental Oil Co. 1.
Wells Drilling
9-26-113 Davis, Texas Prod. Co. 1.
33-27-113 Shidler Syndicate.
29-28-113 Wyoming Production Co.
1-28-114 Lacky, Leo Stein.
6-28-112 Tracy Y. Cannon.
34-27-113 California Pet. Co. 7.
27-27-113 California Pet. Co. 2.
9-29-113 Guy B. Hockett et al.
32-19-116 Cumberland Dome Oil Co.
23-21-117 NE, Lincoln Dev. Co.

14-21-117 Pioneer Oil Co.
30-15-118 NE, Stanberg Pet. Co.
36-27-113 SW, Squires Oil Co.
3-26-113 SW, Superior Oil Co.
3-26-113 NW, Mid States Oil Co.
32-36-113 Fawcett-McPherrin interests 1.
15-26-113 Fawcett-McPherrin interests 2.
15-21-115 Pacific Properties Co.
6-15-118 Vulcan Oil Co.
17-27-113 Western Slope Oil Co.
20-26-113 Murphy Davis Oil Co.
35-27-113 Associated Producers.
31-15-118 Olsen & Zimmerman.
10-14-118 Wilcox & Henley.
12-15-118 Spring Valley Oil Co.
8-27-113 Midvale Oil Co.
26-27-113 Utah LaBarge Oil Co.
3-26-113 Lot 4, Wolf Pet. Co.
5-29-111 Clifton Fear, Scoville interests 1.
9-29-113 Corder No. 1.

Shut Down

16-27-113 Good & Nutting.
21-27-113 SE, Midwest Refg. Co.
26-27-113 NW, Wooten interests.
20-19-116 C. C. Conger et al.
32-19-110 Johnson, Granger Oil Co.
22-28-112 NE, Margaret Key.
21-15-118 NE, Mrs. D. Connel 3.
22-26-113 Big Piney Oil Co.
4-26-113 Uintah Oil Co.
3-26-113 Wyoming Reserve Oil Co.
3-26-113 Reece Oil Co.
26-27-113 Myrta Bonnett.
13-27-113 H. H. Goddard.
Rigs, 9; wells drilling, 43; total, 53.

BAXTER BASIN
Shut Down

26-17-104 Associated Oil Co. 3.
23-17-104 Associated Oil Co.
24-17-104 SE, Montical Oil Co.
8-16-104 SE, Montical Oil Co.
30-18-104 Midwest Refg. Co. 6-AX.
27-27-104 Montical Oil Co.
11-19-104 Prod. & Refs.-Marland.
Rigs, 0; wells drilling, 7; total, 7.

MISCELLANEOUS
Rigs

25-37-63 Buck Creek Oil Co.
17-31-1 Oil Well Syndicate.

Wells Drilling

5-31-70 Criterion Oil Co.
2-39-61 Harry E. Briggs 3.
13-25-66 Greyrocks, A. E. Jacobs.
28-31-69 John Ackard et al.
17-27-60 Agate Basin, Hollingsworth Bros.
19-27-68 McKinley Oil & Gas.
28-17-67 Gose Syndicate.
17-46-62 R. C. Tarrant et al 2.
8-44-60 Briggs & Sartain.
22-29-27 Platte Valley Drilling Co.
17-48-82 Rider, Carter Oil Co.
Guernsey district, Illinois Syndicate.
16-33-68 SW, Schuyler et al.
1-32-68 A. E. Mauft et al.
32-62-67 SW, Western Consolidated Oil Co.

Shut Down

24-62-62 Foreman et al.
12-26-67 Guernsey, Platte River Drlg. Co.
5-51-67 C. M. Carroll et al.
7-47-82 Fairway Oil Co.
29-49-64 Osage Trust Co.
18-29-68 Glendo Oil Co.
1-44-61 Osage Trust Co.
31-27-67 NW, Atlas Oil Co.
35-48-65 Lilley, Pump Creek Oil & Gas.
Rigs, 2; wells drilling, 24; total, 26.

MONTANA
CAT CREEK
Wells Drilling

31-15-20 Masser-Kessling 1.
21-15-30 SW, Canfield & Davis.

Shut Down

11-15-29 Cook-Coolidge.
12-15-28 Van Tassel, California Co.
1-15-29 Custer Oil Co.
9-15-29 Frantz Corp.
36-16-28 Hardrock Oil Co.
7-15-29-NW, Hogan et al.
11-15-29 Fifty-Six Pet. Co.
15-15-30 Swartz et al.
18-16-28 Peerless Oil Co.
Rigs, 0; wells drilling, 11; total, 11.

KEVIN SUNBURST
Rigs

30-35-1 Maughans, Ohio Oil Co. 14.
30-35-2 McBride, Canadian Oil Co.
20-34-1 Zacher, Minot Oil Co.
27-36-1 Kevin-Flathead-Toole.

Wells Drilling

23-35-2 Reeg, Ohio Oil Co. 6.
26-35-2 Abell, California Co. 10.
28-35-2 Lorenson, California Co.
21-35-1 White, California Pet. Co. 1.
3-34-2 Frazier-Tenbrook 4.
20-35-1 Zacher, Hatch & Malon 1.
29-35-1 Anderson, Red Deer Oil Co. 8.
28-35-2 Lorensen, California Co. 6.
21-35-1 Peterson, Zenith Oil Co.
17-29-2 Overly, Adams Oil Co.
30-35-1 Emmons, Dakota Montana 17.
13-32-2 Peterson, Conrad-Edwards.
27-35-2 Lashbaugh, California Pet. Co. 12.
20-34-1 Robert Smith interests.
1-32-2 Sunburst Oil & Gas.
30-34-1 Clarence Prosise.
23-35-2 Pewter, Homestake Explor. 3-B.
34-25-2 Lashbaugh, A. E. Crumley.
32-35-1 Putnam, Ohio Oil Co. 8.
31-35-1 Byrne, Fulton Oil Co. 25.
32-35-1 Caine, "56" Pet. 24.
15-32-1 Mönen, Sunburst Oil & Refg.
11-37-2 Lorum, S. Hart Green.
22-35-2 Lorensen, L. W. Hill 13.
21-35-2 McManus, L. W. Hill 5.
28-35-2 Lorensen, Hill & O'Neil 6.
25-34-2 Moffat, Mouse River Oil Co.
33-35-2 McCormick, Diamond Oil Co. 11.
4-34-2 Moore, Queen City Oil Co. 22.
35-35-2 Abell, Abell Oil Co. 2.
10-35-2 Bruins, Tom Davis Synd. 2-A.
29-35-1 Anderson, Red Deer Oil Co.
36-35-2 State, Homestake Explor. 24.
13-34-1 NE, Queen City Oil Co.
18-34-1 NE, Barnhill Oil Co.
9-34-1 SW, Barnhill-Baker Oil Co.
25-35-2 Stannard, Wyomont Oil & Refg. 8.
25-32-2 Knobes, Howe-McCormick 2.
7-35-1 Russel, Reservation Oil Co.
1-34-2 Steele, Olsbury Syndicate.
30-35-1 Stannard, Rose Oil Co.
8-34-2 Pittsburgh Montana Oil Co.
32-36-2 Roundsley, Sunburst Oil & Gas.
20-35-2 Halter, Sunburst Prod. Co.
18-34-1 Skinner, Creel et al.
7-34-1 Harte, Russell et al.
25-35-2 Sunburst Oil & Gas.
22-35-2 SW, Lorensen et al.
29-35-1 Maughan, Sweeney Oil Co. 4.
1-34-2 Steele, Bruce Radigan 2.

Shut Down

12-35-3 Haugen, Great Northern Royalty.
14-34-2 Jenkins, Creel Sunburst 2.
17-31-1 Dunkirk Drlg. Co.
23-35-3 Carroll, Red Top Oil Co.
24-34-2 Morton, Medford Oil Co.
20-36-2 Loy Oil Co.
28-36-2 Kalmont Oil Co.
17-34-2 Larsen, Pondera Valley Oil Co. 2.
12-34-1 Peterson, Lucky 40 Oil Co.
16-34-2 Rainbow Oil Co.
Rigs, 4; wells drilling, 60; total, 64.

MISCELLANEOUS
Rigs

24-15-14 Fullerton Oil Co.
4-28-30 Mid-Continent Oil Co.
34-23-2 Rainbow Syndicate.

Wells Drilling

13-17-23 SW, Mineral Research.
32-30- 2 Denzer Drake Oil Co.
25-11-24 Aerolite Oil Co. 1.
32- 4-16 Empire Oil & Gas.
13-33- 2 Hunter, Prairie Oil & Gas.
17-27- 4 Julian-Pondera 1.
7-34- 6 Sunburst-Bearns Den-Ritter 2.
12-22- 3 Mann, Allen Oil Co.
27-22-15 Cleggett Dev. Co.
35-12-22 McElwain Dev. Co. 2.
25-14-28 Winnet Pacific Oil Co.
17- 7- 1 Madison Oil & Gas.
13- 3-22 Murray & Burke.
22-19-13 McKenzie Drilling Co.
24-21-17 Melton Corp.-Fenholt.
1-27- 6 Julian Oil Co.
24- 1-21 Record Pet. Co. 3.
35-30- 3 Hiland-Van Dale.
2-29- 1 Big Eleven Oil Co.
19- 3-23 Dickie, Norbeck Oil Co.
31-31-20 Round Butte Oil Co.
Medicine Hat, Roth Syndicate.
34-23- 2 Allen Oil Co.
1-31-31 Big Dome Oil Co.
21-37- 5 Utah Western Pet. Co.
13- 8- 2 Coal Ridge, Montana Oil & Gas.
23- 3-24 Link, Euclid Oil Co.
23- 3-21 Little Basin, Prairie Oil & Gas 1.
21-36- 7 Axwell, Kalispell Pet. Co.
21- 6-35 SE, Seiler Oil Co.

Shut Down

23- 2-15 Shoshone Con. Oil Co.
23- 3-21 Fouid Montana Major Oil Co.
3-22- 3 Elk Horn Oil Co. 2.
34-22- 1 Great Northern Mutual.
33-16-28 NW, Oakmont Pet. Co.
7- 8-57 Wolf Creek, California Montana.
28- 8-45 Montana Belle Oil Co.
21- 7-21 SW, Atlantic Pet. Co.
13- 3-22 Broadview Syndicate.
17- 7-17 NE, Gibson Land Co.
27-36-12 SW, Mountain Chief Oil Co.
9-21-14 Glenholm Oil Co. 2.
18-22- 3 SW, Elk Horn Oil Co.
32-35-20 Butler Oil & Gas.
20-24- 1 McDonald et al.
3-27- 8 Robinson et al.
McDonald Creek, Wilson Fisher 3.
32-36- 2 Weill Syndicate.
25-21- 1 Ainsworth Neudigate interests.
18-30- 3 Great Northern Producers.
24-10-39 Jones et al.
2-26- 2 M. M. Edwards.
7-27- 7 Circle Oil Co.
4- 2-25 SW, C. B. Minnimen.
26-10-29 Stellar Oil & Gas 6.
9-10-29 Stellar Oil & Gas.
7-21- 1 Tri-State Oil Co.
12-11-13 Kalispell Syndicate.
24-14-25 Henry Seibert.
8- 4-22 Hoosier Oil Co.
Rigs, 3; wells drilling, 60; total, 63.

COLORADO
Rigs

2-19-70 Wilson, Uncle Joe Oil Co.
5- 6-86 Rule, Texas Prod. Co. 1.
22-12-11 SE, Ohio Oil Co. 1.
3-35-58 Wiser Oil & Gas Co.
1- 9-79 Peterson, Continental Oil Co. 1.
7- 9-68 Gault Piett, Union Oil Co. 4.
17-33- 7 Van Ruff & Miller.

Wells Drilling

8- 6-86 Henry Dennis, Texas Prod. Co. 3.
16-10-69 Buckeye, A. A. Rollestone.
9- 1-70 Nelson, Boulder Drlg. Co. 1.
11-30-60 Model Syndicate.
32-34-56 Adams, Parker Club 1.
1-19-70 SW, Continental Oil Co. 586.
35-18-70 SE, Continental Oil Co. 589.
35-18-70 SE, Continental Oil Co. 593.
28-18-70 NW, Continental Oil Co. 591.
34-18-70 Belnap, Canon City Oil Synd. 1.
2-19-70 Fremont County Holding.
35-18-70 Tutt & Hamlin.
27-18-70 Abbey, Henry Fox.
2-19-70 Lovson, Divide Oil Co.
28-18-70 Sheridan, Columbia Oil Co.
35-18-70 Eichman, Lee Stock.
35-18-70 Lee, Stock Brothers.
27-16-65 Nies, Philips Pet. Co.
18- 6-86 Belle Denis, Texas Prod. Co. 3.
4-34- 6 Sandoval, Mt. States Gasoline Co.
13- 4-92 Camp, Moffat Pet. Co.
28- 2-69 Gillespie, Frank Kistler & Co.
28- 1-70 Adlum, Offset Oil Syndicate.
34-17-70 Mutual Oil Dev. Co.
17- 4-69 Berthoud, Five Square Oil & Gas.
5- 1-70 Jesok Oil Co.
29-26-57 Bell Ranch, Timpas Dome Synd.
8- 6-86 Adair, Texas Prod. Co. 3.
10- 4-91 Wick, Texas Prod. Co. 3, 5.
2- 9-79 Pollock, Continental Oil Co. 1.
31-10-68 Buckeye, Union Oil Co. 5, 4.
6- 6-86 John McNeil, Texas Prod. Co.
7- 6-86 Quaintance, Texas Prod. Co. 3.
26-34-48 Jones, J. R. Philips.
34- 3-70 Pretchel, Left Hand Oil Co.
12-34- 7 Ferguson, E. B. Klem.
17-34- 2 Ben Owen.
27-41-10 State, Traders Oil Co. Inc.
6-47-18 Wilcox, General Pet. Co.
27- 3-94 Freeman, Texas Prod. Co. 1.
33- 5-91 Knowlton, Texas Prod. Co. 10.
31-2-102 Emerald, Texas Prod. Co. 2.
13-23-50 Ligget, Caddo Oil Co.
24- 2-103 Tidewater Associated Oils.
11-30-60 Foley & Goldsworthy.
30- 2-102 Rangeley, Midwest Refg. Co. 2.
30- 2-70 Sourgeon, Boulder Oil Corp.
14- 1-48 Yuma Oil Dev. Co.
32-33-12 Hutchinson, E. J. Miley.
2- 8-68 State, Atlantic Pet. Co.
33- 1-70 Denies, Repollo Oil Co.
24- 6-31 Patterson, Platte Valley Oil Co.
13-33-12 NW,W. H. Hall et al.
6- 7-68 Brown, Fifty-Four Oil Co.
4- 6-68 Webster, Douglass Oil Co.
11-19-65 Zenith Oil Co.
11-33-12 Snyder, Ohio Oil Co.
9-17-69 John, Jr., Red Creek Oil & Gas.
28-28-52 Southeast Colorado Oil Co.
30-10-68 Warren, Poudre River Oil Co.
1- 8-68 Warren, Consolidated Oil Fields.
16-20-69 E. R. Goode et al 2.
17- 9-68 Elder, Farrells Associates.
34- 9-69 Ruff, Equitable Oil Co.
14- 1-68 Smith, Ritter Oil Co.
33-18-61 Retter, Boone Oil & Gas 1.
10-29-69 Panuco Explor. Co. 2.
36- 8-55 State, Northeast Colorado Oil Co.

Shut Down

34-32-65 No Jack Oil Co.
4-47-16 Mullens, General Pet. Co.
3-34-62 Cortese, Pac. Coast Gaso. Co. 1, 2.
9 34-62 Great Dome Oil Co.
15-21-65 Union of Colorado.
28- 3-65 Watkins, Miller Oil Co.
1- 2-68 Orrison, Municipal Oil Co.
36- 9-69 State, Union Oil Co.
12- 6-86 State, Texas Prod. Co.
35-22-65 NE, San Carlos Oil Co.
25- 1-69 Everhard, Boulder Oil Corp.
25-24- 1 SW, Utah Southern Oil Co.
32-20-61 Baxter, Salida Oil & Refg. Co. 2.
32- 2-69 NE, White River Dev. Co.
11- 1-44 Hildreth, Hessick Drilling Co.
19- 5-69 Alps, Gateway Oil Co.
5-8-103 Gypsy Oil Co.
8-8-102 Smith, Sun Oil Co.
32-10-68 SE, Imperial Oil Co.
25- 8-68 NE, American Pet. Co.
4-45-16 Gilmore Oil Co.
5- 6-68 NE Majestic Oil Co.
4-32-67 Tulsa Oil Leasing Co.
34- 8-68 Ruff, Victory Oil Co.
9-12-68 Panuco Exploration Co.
30-27-45 NW Lamar Oil Co.
16-21-65 Columbia Heights Oil Co.
Rigs, 7; wells drilling, 98; total, 105.

UTAH
Rigs

20-25- 1 Moab, Empire Pet. Co.

Wells Drilling

16-30-25 Union of California.
1-30-20 Utah Pet. Co.
28-41-19 Canyon, Utah Southern Oil Co.
34-96-21 Moab, Utah Oil Dev. Co.
17-22-19 Armstrong Oil Co.
28-40-18 Noble, Utah Southern Oil Co.
36-14-19 Francis Oil-Utah Pet. Co.
5- 2-91 Prommel, Midwest-Snowden-McSweney.
17-34-24 Boulder Knob Oil & Gas.
30-14-19 Elk Ridge, Midwest Explor. Co.
16-28-20 Hazelwood, Utah Southern & Equity Oil.
4-28-18 Western States Dev. Co.
6-30-21 Kimball, Empire G. & F. Co.
34-95-21 Big Six-Embar Oil Co.
8-26-22 Utah Oil Dev.
31- 9- 8 Utah Pet. Co.
19- 9- 8 E. J. Raddatz.
19-22-21 Utah Oil Refg. Co.
36-40-90 Utah Oil Refg. Co. 2.
16- 2- 5 Monroe Oil Co.
23-14-92 Mt. States Pet. Co. 2.
4-19-25 Chas. Orchard et al.

Shut Down

3-30-20 Rose, Dregerel Pet. Co.
4-22-19 Crescent Eagle Oil Co.
27-21-19 Western States Dev. Co.
12-30-20 Western States Dev. Co.
2-12-20 L. L. Travis.
21-22-22 Hope Syndicate.
6-14-13 San Juan Dev. Co.
23-42-17 Monumental Oil Co.
12-19-13 Ute Pet. & Utah Southern.
13- 4-16 Castle Dale Oil Co.
27-16- 4 Producers Oil Co.
Lakeside Dome, W. R. Holmes.
25-13-13 Utah Central Oil Co.
Diamond Fork, Gustavson Oil Co.

NEW MEXICO

6-24-25 Logan, Frontier Oil Co.
23-29-11 James, R. M. Smith et al 2.
4-29-34 Jackson, Texas Prod. Co.
15-17-32 Govt. land, Maljamar O. & G.
12-29-19 Continental Oil Co. 23.
10-29-11 Kellenberger, R. M. Smith et al 1.
33-18-28 Pueblo Oil Co.
2-17- 9 Hospah, Midwest Refg. Co. 2.
25-18- 9 Hospah, Prod. & Refg. Co.
30-18- 8 Hospah, H. L. Williams.
10- 4-28 Oliver Weill.

Wells Drilling

12- 7- 7 DeHart, Sinnock Reynolds et al.
24- 7-29 Wells, Ohio Oil Co.
34-17-27 Govt. land, Empire Gas & Fuel 3.
22-17-31 Govt. land, Skelly Oil Co.
33-17-30 State, Wooley-Jones.
8-11-23 Forsyth, Gibson Oil Corp.
16- 1-27 NE, Navajo Oil Co.
21-29-11 Jackson, A. B. Edwards, trustee.
24-30-13 Davis, Portage Oil Co.
32- 6- 1 New Mexico Dev. Co.
36- 5- 6 Navajo Oil Co.
32-17-27 Navajo Oil Co.
25-16-31 Caprock, Texas Prod. Co.
2-18-27 State, R. D. Compton 2.
15-18-26 Terry, Midwest Refg. Co.
30- 6-31 Rhodes, Midwest Refg. Co. 1.
1-17- 9 McKinley County, Midwest Ref. Co.
3-17-28 Govt. land, Clark & Grimm.
15-16-28 State, Diamond Oil Co.
21- 3-38 Hoskinson, Clovis Oil & Gas Co.
11- 5-35 Sanders, Frio Oil Co. 2.
6- 4-20 Barbara Woods Oil Co.
25- 8-31 Foley, Griggs, Gibson Oil Corp.
24-31-11 Attlebury, South West Dev. Co.
9-30-11 Chrisman, New Mexahoma Oil Co. 2
24-30- 9 Emery, Mansfield et al 1.
30-30-15 Bowman, San Juan Leasehold 2.
32- 7- 2 Harland, Valencia Pet. Co.
25-17-26 Stone et al.
36- 6- 3 Tome Grant, Gilmore & Sheldon.
3- 3-15 Duran, Diamond Oil Co.
8-29- 9 Pine Buttes, Union Oil & Min. Co. 2.
25-28-11 Larsen Oil & Mining Co.
17-29-13 Palmar, San Juan Pet. Co.
22-30-9 Haren, Coon-Hennis Synd.
2- 4-19 Woods, Woods et al.
21-17-30 Wooley-Jones, Mid-Cont. Pet. Co.
5- 7-31 Argo Oil Co.
2-29-17 Rattlesnake, Continental Oil Co. 1.
3-27-17 Table Mesa, Continental Oil Co. 11.
11-20-30 Hale, Marland Oil Co.
29-17-18 Wilson, Texas Prod. Co.
22-26-37 Rhodes, Texas Prod. Co.
14-24-30 Paso Monta, Sun State Pet. Co.
5 30-20 Honey, Farrel's Associates.
11-16-32 State, Cap Rock Oil Co.
25-19-35 State, Exploration Oil Co.
27- 4-32 NW, Trigg Syndicate.
24-13-30 Arena Oil Co.
4- 2-20 Henkle et al.
20- 7- 1 Arnold et al.
2-29-19 Rattlesnake, Continental Oil Co. 17.
4-17-34 Inglefield & Bridges.
7- 6- 8 Weber, Jones & Newberry.
28- 6-10 Randall et al 2.
23- 3-13 SE, Pinos Wells Oil Corp.
23- 4- 1 Seippie Oil Co.
9- 1-31 Pouder & Pomeroy.
17-18-28 Govt. land, Texas Prod. & H. D. B.
21-29-11 Jackson, "26" Oil Co.
26- 6- 2 Acme Oil Co.
11- 3-32 Gurley, Contillion Oil Co.
8- 6- 1 Navajo Oil Co.
10-29-24 Navajo Oil Co.
10-29-24 Eureka Oil Co.
10-28-26 Bevins & James.
30-20-10 Benedum & Trees.
22-25-21 Embar Oil Co.
5-17-28 Miley Oil Co.
18- 7-21 Ventura Oil Co.
4-18-28 Pueblo Oil Co.
4-21-27 M. M. Miller.
15-29-11 Bloomfield Oil & Gas.
15-23-24 California Co.
16-29-11 SE, C. S. Ringle.
34-29-11 C. S. Ringle.
22-18-27 Southeast Colorado Drilling Co.
24-30-13 Portage Oil & Gas.
34-29-11 Garland, Senate Oil Co.
15-12-34 State, Holmes & Huey.
36- 1-21 Ingram, Navajo Oil Co.
32- 6- 1 New Mexico Dev. Co.
34-17-33 Wyatt, Henderson, Dexter, Blair.
19-18-10 Childers Drilling Co. 2.

Shut Down

13-22-29 Workman, Ohio Oil Co.
12-19-26 Billings, Hamilton Pet. Co.
15-16-25 Hammond Oil Co.
1-19-27 State, Manhattan Oil Co.
15-21-35 Govt. land, Covert et al.
10-29-24 Moore, Eureka Oil Co.
10- 3-17 Transport, Navajo Oil Co.
20- 6-10 Sterling Oil Corp. 2.
11- 6-27 State, Sparrow & Dreke.
16- 1-27 McAdoo Oil Co.
32- 6-10 Minerman et al.
6-18-33-Jewett, Ohio Oil Co.
22-16-30-Sellery, Ohio Oil Co.
23-16-20 Young, Ohio Oil Co.
27-19-38 Govt. land, Mesculero Oil Co.
1-17- 9 Santa Fe, Hurst et al.
14- 3- 6 C. J. Stanley.
1-22-17 SE, Blue Bird Oil Co.
17-20-11 SW, Hubbel & Hall.
12-30-11 Stein, Miley Oil Co.
3-13-14 State, S. Dysart et al 2.
12-11-11 S. Dysart et al.
26- 7- 2 Swisher & Wallace.
27-17-16 Chegague Syndicate.
9- 6-24 Grady Oil Co.
12-17-31 Nichols, Ohio Oil Co.
22-19-27 NW, Valley Oil Corp.
31- 3-15 NW, Wyoming-Colorado Oil Co.
29-29-11 Montezuma Syndicate.
9-30- 9 Rainbow Oil Co.
11-20-29 Rawson, William Dooley.
26-18-18 New Mexico Oil Co.
30-28-11 New Mexico-Milwaukee Synd.
23-18-15 E. M. Treat.
17-16-27 Lackawana O. & R. 6.
21-18-28 Lackawana O. & R. 7.
3-18-27 Mann, R. D. Compton 3.
1-18-31 Govt. land, Sullivan et al.
7-29- 7 Federal Drilling Synd.
22-18-34 NE, McDonald et al.
Rigs, 11; wells drilling, 124; total, 135.

WYOMING
Wells Completed

23-40-79 NE, Wyoming Asso. 36..... 10
24-40-79 NW, Wyoming Asso. 19..... 42
26-40-79 SW, Wyoming Asso. 22-L....3601
23-40-79 SE, Wyoming Asso. 21..... 21
26-40-79 SW, Midwest Oil Co. 3..... 30
35-40-79 SW, Midwest Oil Co. 31-L....1264
25-40-79 NW, Midwest Oil Co. 31-L....3526
26-40-79 SE, Midwest Oil Co. 1-L....3795
23-40-79 SE, Wyoming Asso. 6-L....3406
34-40-79 SE, Salt Creek Cons. 36-L....1604
23-40-79 SW, Midwest Oil Co. 16-L....1001
23-40-79 NW, Wyoming Oil Fields 36-L. dry
2-39-79 NW, Midwest Oil Co. 15-L....1482
23-40-79 SW, Midwest Oil Co. 34-L.... 64
23-40-79 SW, Wyoming Asso. 19-L.... 150
23-40-79 SE, Wyoming Asso. 33-L....3677
26-40-79 NE, Wyoming Asso. 4-L....6080
35-40-79 NE, Midwest Oil Co. 33..... 58
35-40-79 NE, Midwest Oil Co. 13..... 220
26-40-79 NE, Wyoming Asso. 20..... 50
23-40-79 SE, Wyoming Asso. 1..... 111
26-40-79 SE, Midwest Oil Co. 16-L....5634
26-40-79 SW, Midwest Oil Co. 18-L....5512
35-40-79 SW, Midwest Oil Co. 24 183
23-40-79 NE, Midwest Oil Co. 5..... 240
26-40-79 NE, Wyoming Oil Fields 22-L 576
26-40-79 SE, Wyoming Asso. 22-1.....2422
34-26-88 Prairie Oil & Gas 3-C ..... gas
12-16-74 SW, G. A. Griggs ..... dry
13-27-95 Brimmer, Prairie Oil & Gas 2.. dry
3-26-113 Rainbow Oil Co. 3..... 200
3-26-113 Rainbow Oil Co. 4..... 175

Wells completed 32
Production 45143
Dry 3
Gas 1
Gas production 21,000,000

MONTANA
Wells Completed

23-35- 1 Ferring, Kalispel-Coleman ... dry
36 35- 2 State, Homestake Explo. 26... 30
10-35- 2 Tom Davis Synd. 100
34-25- 2 Lashbaugh, Ferdig Oil 12-A. 90
31-35- 1 Byrne, Fulton Oil Co. 23..... 10
31-35- 1 Byrne, Fulton Oil Co. 24..... 10
28-35- 2 Lorensen, Calif. Co. 6..... 25
12-35- 2 Berglin, Calif. Co. 5 ..... dry
31-35- 1 Allen, "31" Pet. Co. 7..... 20
10-35- 2 Howling, Carter Oil Co. 3.... dry
21-35- 1 Danielson, Crescent Oil Co. 3.. dry
21-35- 2 McManus, L. W. Hill 4..... dry
33-35- 2 McCormick, Diamond O. Co. 10 dry
19-25- 1 Kalispell, Arcuas Oil Co. 4.... 25
7-34- 1 Wilcox, Dakota Montana 2.... 400
21-35- 1 Byrne, Fulton Oil Co. 26..... 100
21-35- 2 McManus, L. W. Hill 5..... 50
32-35- 1 Putnam, Kewanee Oil Co. 8... 400
18-34- 1 Hannah, Hannah Porter Oil 2. 260
6-34- 1 Emmons, Dakota Montana 20.. 30
10-35- 2 Bruins, California Pet. 8..... dry
17-35-23 Rose Oil Co. ..... dry
25- 1-21 Linco Oil Co. ..... dry
14-31- 1 Hawkins, Dunkirk Oil Co. ..... dry
28-35- 2 Lorensen, California Co. 7.... dry
28-35- 2 Moe, California Pet. Co. 7.... dry

Wells completed 28
Production 1650
Dry 11

COLORADO
Wells Completed

35-18-70 NE, Continental Oil Co. 583... dry
2-19-70 Continental Oil Co. 585 ..... dry
36-18-70 Donnelley Bros. ..... dry
19-19-69 Florence Pet. 3 ..... dry
35-18-70-Kebler, Oilferous Oil Co. ..... dry
34-18-70 Dotndorf, Canon City O. Synd. dry
26-18-70 Kindig, W. F. McCormick 1... dry
1-19-70 McCormick, McCormick 2..... dry
35-18-70 Travis Raddatz Synd. ..... dry
30-20-82 Baxter, C. E. Puckett et al 2.. dry
36-18-70 Continental Oil Co. 588..... 100
35-18-70 Continental Oil Co. 590 ..... dry

Wells completed 13
Production 100
Dry 11

UTAH
Wells Completed

7-21-19 Sandberg Pet. ..... dry
17-27-20 Shaffer, Midwest-Utah Southern dry

Wells completed 2
Dry 2

NEW MEXICO
Wells Completed

5-17-28 New Mexico Oil Co. ..... dry
19-18-29 NW, Bujac-Wade-Murphy .... dry
34-23-21 Fernandez, Brooks-Yetter .... dry
13-29-19 Rattlesnake, Continental Oil 23 dry
3-27-17 Table Mesa, Continental Oil 11 dry
10-27-17 Continental Oil Co. 7 ..... dry
22-29-11 Hare, Mid-Continent Oil Co.... 19
19-14- 2 State, Bowser & McCall ..... dry
18-17-32 Mitchell, Ohio Oil Co. 1..... dry
9-19-28 State, Henderson-Dexter-Blair. dry
19-18-10 Childers Drilling Co. 1..... 10

Wells completed 11
Production 20
Dry 9

EASTERN FIELDS

Summary of Completed Wells

Field—	Comp.	Prod.	Dry	Gas
Allegany	42	100	0	0
Bradford	186	429	0	0
Middle Field	5	18	0	0
Venango-Clarion	34	43	0	4
Butler-Armstrong	6	1	1	4
S. W. Pennsylvania	14	41	5	6
West Virginia	66	198	14	33
S. E. Ohio	87	1,344	26	12
Totals, May	440	2,174	46	59
Totals, April	380	2,930	36	48
Difference	60	756	10	11

Summary of Work Under Way

Field—	Rigs	Drg.	Total
Allegany	11	33	44
Bradford	23	113	136
Middle Field	0	9	9
Venango-Clarion	0	17	17
Butler-Armstrong	8	10	18
S. W. Pennsylvania	4	36	40
West Virginia	37	105	142
S. E. Ohio	30	72	102
Totals, May 31	113	395	508
Totals, April 30	121	456	577
Difference	8	61	69

WELLS COMPLETED
ALLEGANY FIELD

Heseltine, Atwood & Stebbins 1
Fee, First Natl. Bank, Shinglehouse, No. 6 1
Fee, Barnes & Scott 2
Fee, McKean Natural Gas 1
Fee, Empire G. & F., Ltd. 2
Fee, Empire G. & F., Ltd. 4
Cleveland, S. J. Cleveland 3
Reid Agent, State Bnk. of Bolivar et al 4
Thompson, R. D. & H. B. Thompson.. 1
Woodard, S. E. Wightman et al 1
Fee, R. J. Dermitt 1
Fee, Hazelwood Oil 1
Birtcil, W. E. McMurdy et al 5
Wilson & Reynolds, J. C. Hyde et al .. 2
Coast et al, M. J. Crowley et al 3
McDermott, Willbart Oil et al 5
Fee, F. J. McDermott 3
McDermott, John K. Cochran et al 5
McDermott, John K. Cochran et al .... wtr
McDermott, John K. Cochran et al 2
McDermott, John K. Cochran et al 5
McDermott, John K. Cochran et al 4
Fee, O. W. & Lean E. Perry 2
Fee, A-C-A Oil Corp. 1
Fee, Charles Phillips 1
Kinley Oil Co., Ed Hungerford et al .. 1
Hazelwood Oil Co., Tract 1 Allegany No. 61 2
Fee, Forest Oil Corp. 28 5
Fee, Forest Oil Corp. 305 2
Fee, Forest Oil Corp. 306 4
Fee, Forest Oil Corp. 307 2
Fee, Forest Oil Corp. 308 10
Zimbaur, N. V. V. Franchot, mgr. trust. 2
Geringer, John L. Gerringer et al 1
Fee, C. M. & F. H. Lippert 1
Fee, Leland Oil 2
F. D. & B., Black & Derby 1
Meridan et al, N. V. V. Franchot, mgr. trust. 2
Fee, Miller & Bovaird 1
Fee, Leland Oil 1
Gerringer, John L. Gerringer et al 1
Kinley Oil, Pure Penn Oil, Inc. 2

Wells completed 42
Production 100
Water 1

BRADFORD FIELD

Riddel est., South Penn Oil 54 3
Riddel est., South Penn Oil 55 2
Keating fee, South Penn Oil ..... wtr
Keating fee, South Penn Oil ..... wtr
Fee, W. E. Williams 22 4
Fee, W. E. & W. W. Parmeter 36 2
Fee, Daly 2 2
Kinley Oil, Louis Schoenfield 9 2
Fee, M. Hungiville 8 1
Swift, Park & Hungiville 5 1
Franchot, Pennbrook Oil 2
Fee, Dana & Dana 47 2
South Penn Oil, John Jackson 17 2
Fee, T. H. Kennedy 33 5
Flickinger, C. P. Kervin 3
Fee, South Penn Oil 4
Fee, South Penn Oil No. 2 ..... wtr
Fee, South Penn Oil 1
Quintuple Oil, James Zane est. 2
Fee, Anna J. Van Tine 4
Isaac Willets est., James W. Looker .. 5
Bing., Hazelwood Oil 132 4
Fee, W. C. Kennedy Co. 60 5
Bing. 150, South Penn Oil 82 5
Bing. 151, South Penn Oil 39 ..... wtr
Bing. 151, South Penn Oil 35 2
Kennedy & Clarke, Phoenix Oil 168 5
Fee, South Penn Oil 47 1
Bing. 390, South Penn Oil 2
Bing. 399, South Penn Oil 2
Fee, Edwin Jack et al 1
Bing. 439, South Penn Oil 101 ..... wtr
Bing. 582, Asso. Producers 380 9
Bing. 568, Asso. Producers 384 2
Bing. 533, South Penn Oil 89 3
Union Keating, South Penn Oil 77 1
Jones, South Penn Oil 226 2
Jones, South Penn Oil 225 2
Blair, South Penn Oil 54 1
Dent, South Penn Oil 110 1
Ent. B. & P., South Penn Oil 54 1
Taylor, South Penn Oil 30 1
Burdick, South Penn Oil 55 1
Melvin, South Penn Oil 193 1
Melvin, South Penn Oil 194 1
Bing. 416, South Penn Oil 12 1
Lots 5 and 6, South Penn Oil 47 1
Smith, South Penn Oil 144 1
Bing. 377, South Penn Oil 10 1
Bing. 533, South Penn Oil 89 2
Smith, South Penn Oil 143 1
Bing. 400 acres, South Penn Oil 81 1
Bing. 212, South Penn Oil 44 1
Burdick, South Penn Oil 54 1
Kendall, South Penn Oil 63 1
Tract 27, Hazelwood Oil 133 1
Tract 27, Hazelwood Oil 132 1
Bing. 296, Andrus & MacDowell 112 3
Lawton, Esther Oil, Inc., 62 2
Bing. 386, Hooper & Co. 24 ..... wtr
Bing. 386, Hooper & Co. 25 1
Lawton, Premier Oil 28 2
Bing. 389, D. W. Daly 47 2
Bing. 371, Lane No. 1 et al 73 1
Bing. 540, Park & Bovaird 42 ..... wtr
Bing. 500, Daly & Healy 38 1
Bing. 464, R. S. Pringle 23 2
Bing. 490, T. H. Kennedy No. 2, 147 2
Bing. 370, R. M. & James George 32.. 3
Fee, Forest Oil Corp. 203 1
Fee, Forest Oil Corp. 95 1
Fee, Forest Oil Corp. 104 1
Fee, Forest Oil Corp. 111 1
Sims fee, Forest Pet. Corp. B-010 ..... pres
Sims fee, Forest Pet. Corp. B-019 ..... pres
Sims fee, Forest Pet. Corp. 1-A-14..... 2
Sims fee, Forest Pet. Corp. 1-A-12 1
Sims fee, Forest Pet. Corp. 1-A-35..... 1
Sims fee, Forest Pet. Corp. 1-B-22 2
Sims fee, Forest Pet. Corp. 1-B-21..... 3
Sims fee, Forest Pet. Corp. 1-B-26 3
Sims fee, Forest Pet. Corp. 1-B-19..... 2
Sims fee, Forest Pet. Corp. 1-A-43 4
Taylor fee, Forest Pet. Corp. D-05..... pres
Taylor fee, Forest Pet. Corp. D-09 ..... pres
Taylor fee, Forest Pet. Corp. E-08..... pres
Taylor fee, Forest Pet. Corp. C-011..... pres
Taylor fee, Forest Pet. Corp. E-010 ..... pres
Taylor fee, Forest Pet. Corp. E-04 ..... pres
Taylor fee, Forest Pet. Corp. C-09 ..... pres
Taylor fee, Forest Pet. Corp. 1-D-7.... 1
Taylor fee, Forest Pet. Corp. 1-E-6 2
Taylor fee, Forest Pet. Corp. 1-E-17.... 3
Taylor fee, Forest Pet. Corp. 1-C-7 2
Taylor fee, Forest Pet. Corp. 1-E-8 3
Fisher fee, Forest Pet. Corp. F-012.... pres
Fisher fee, Forest Pet. Corp. 1-F-23.... 2
Fisher fee, Forest Pet. Corp. 1-F-27.... 2
Fisher fee, Forest Pet. Corp. 1-F-39.... 2
Fisher fee, Forest Pet. Corp. 1-F-37 2
Fisher fee, Forest Pet. Corp. 1-F-25..... 1
Drake fee, Forest Pet. Corp. G-029 ..... pres
Drake fee, Forest Pet. Corp. G-020..... pres
Drake fee, Forest Pet. Corp. G-042 ..... pres
Drake fee, Forest Pet. Corp. G-043 ..... pres
Drake fee, Forest Pet. Corp. 1-G-25..... 5
Drake fee, Forest Pet. Corp. 1-G-62..... 2
Drake fee, Forest Pet. Corp. 1-G-72 4
Drake fee, Forest Pet. Corp. 1-G-78 3
Drake fee, Forest Pet. Corp. 1-G-79 2
Drake fee, Forest Pet. Corp. 1-G-69 3
Drake fee, Forest Pet. Corp. 1-G-8 3
Drake fee, Forest Pet. Corp. 1-G-91..... 5
Drake fee, Forest Pet. Corp. 1-G-37..... 7
Drake fee, Forest Pet. Corp. 1-G-48..... 8
Drake fee, Forest Pet. Corp. 1-G-70..... 12
Drake fee, Forest Pet. Corp. 1-H-19..... 10
Drake fee, Forest Pet. Corp. 1-H-6 2
Drake fee, Forest Pet. Corp. 1-H-10 35
Drake fee, Forest Pet. Corp. 1-H-20 5
Drake fee, Forest Pet. Corp. 1-H-25..... 3
Garlock, L. H. Smith & Sons 2
Garlock, L. H. Smith & Sons 2
Garlock, L. H. Smith & Sons 5
Germer, Linwood Oil 2
Rounds, J. W. Kaufman 8
Rounds, N. V. V. Franchot, mgr. trust. 10
Rounds, N. V. V. Franchot, mgr. trust. 4
Fee, E. D. Kepner Oil 5
Fee, E. D. Kepner Oil 6
Fee, Curtis & Dunlavey Bros. 2
Loop est., J. E. Karl & Co. 2
Loop est., J. E. Karl & Co. ..... wtr
Fee, Pennsylvania Oil Products 6
Fee, Pennsylvania Oil Products ..... wtr
Fee, North Branch Oil 2
Fee, G. H. Smith 3
Skinner, W. E. Burdick 2
Fee, Davis Oil ..... wtr
Fee, D. J. Moody 2
Fee, Pennsylvania Oil Products Refg... 1
Riddell & South Penn Oil, Pollock et al 1
Fee, Mix Creek Oil 3
Fee, Mix Creek Oil 2
Fee, Mix Creek Oil 3
Middaugh, South Penn Oil 1
Whipple, South Penn Oil 1
Melvin, South Penn Oil (2 wells) ..... wtr
Jones, South Penn Oil 1
Keating, South Penn Oil 1
Kendall, South Penn Oil 1
Bingham 212, South Penn Oil 2
Cotton, South Penn Oil 1
Bingham 296, Andrus & McDowell 1
Borden fee, T. P. Thompson, Jr. 1
Borden fee, T. P. Thompson, Jr. 1
Whipple, South Penn Oil 2
Ekas, Lloyd & Piper 2
Ekas, Lloyd & Piper 1
Ekas, Lloyd & Piper 2
Chamberlain, T. H. Kennedy 2
Wilson, Denwood Oil 1
Fee, F. S. Boquin 2
Mechan, A. J. Vantine 1
Richardson, Hope Oil 2
Fee, W. J. Healy 1
Boyd, Colt est. 1
Booth, R. L. Porter 2
Fee, J. H. Gibson 2
Devlin, Korner Oil 1
Boyd, G. A. Simpson 2
Bishop, Kendall Refining 2
Boyd, Whitehead & Carson 2
Jack, Howard Jack et al 2
Skinner, W. E. Burdick 2
Keller, Hiffer & Sprague 2
Borden, W. B. Miller 3
Meldrum, A. H. Wiborg 3
Borden, Pressure Oil 5
Borden, Pressure Oil 2
Middaugh, A. L. & L. M. Lily 2
Keating, Sloan & Zook 2
Duke, MB. Oil 2
Wright, Wright & Johnson 3
Wright, Glenn McCool et al 1
Bingham, H. E. Camp est. 2

Wells completed 130
Production 270

MIDDLE FIELD

Osgood, Rembold & Co. 14 5
Lot 2, Hickey & Rieg 4 2
Lot 2, Hickey & Rieg 5 4
Lot 420, Sloan & Zook Co. 49 2
Rockwell, J. M. Sharp 4 5

Wells completed 5
Production 18

VENANGO-CLARION

Diamond, J. & L. Diamond 6 1
Hollister, J. C. Atwell 16 1
Porter, Smith, Walters et al 42 1
McNellie, Midland Oil 34 2
Cox, George H. Torrey 10 2
Foster Farm Oil, Jenkins & Grimm 27 1
Foster Farm Oil, Jenkins & Grimm 28. 1
Foster Farm Oil, Jenkins & Grimm 29. 2
Wright, Graham & Scott 38 1
Blank, National Petroleum 11 1
Blank, National Petroleum 12 1
Blank, National Petroleum 13 1
Delrimple, National Petroleum 1 1
Delrimple, National Petroleum 3 1
Corbett & White, Corbett & White 6 1
Milton, S. G. Milton 71 3
Milton, S. G. Milton 72 2
Irwin, Porter, Hoffman et al 6 1
Kennerdell, J. L. Eakin 53 1
Cassidy, Franklin Trust Co. et al 7 1
Kapp, W. B. & F. E. Kapp 6 3
Alum Rock Gas, Shawkey 6 1
McClintock, Geo. Nelson 2 1
McClintock, F. E. Harsh 14 2
Shreffler, M. C. Keely et al 1 ..... gas
Kuhns, Reitze & Phillips 1 2
Hasson, Plum O. & G. 1 2
Mercer—
Broadbent, E. A. Bream Co. 1 1
Clarion—
Moran, Beary & Co. 1, 2 ..... gas
Gillingham, Alum Rock Gas 4 2
Wedekind, S. R. Lewis et al 3 ..... gas
Stewart, Neely & Clover 7 2
Master, F. I. Master 2 1

Wells completed 34
Production 43
Gas 4

BUTLER-ARMSTRONG

McMoran, H. C. Harbinson et al 1 .... dry
Mershon, Nebel & Co. 1 ..... gas
Deiter, H. Deiter & Co. 1 1
Shroup, Charles Hilderbrand 6 ..... gas
McGuire, H. R. Parker 1 ..... gas
A. C. I. & T. S. for Boys, A. C. I. & T. S. 6 ..... gas

Wells completed 6
Production 1
Dry 1
Gas 4

ALLEGANEY FIELD
Rigs

Heseltine, Atwood & Stebbins.
Fee, Barnes & Scott.
Fee, G. H. Bradley & Son.
Fee, Raymond & Baker.
Fee, Empire G. & F., Ltd.
McDermott, John K. Cochran et al.
McDermott, Willbart Oil et al.
Fee, M. J. Crowley et al.
Fee, F. J. McDermott.
Fee, O. W. & Lean E. Perry.
Fee, Colegrove Oil.

Wells Drilling

Schrader, Citizens Natl. Bnk. of Wellsville No. 30.
Crane, Reed et al, Ernest Goldsmith.
Fee, McKean Natural Gas.
Fee, F. A. Woodard et al.
Fee, Empire, Ltd., et al.
Fee, Empire G. & F., Ltd.
Fee, Empire G. & F., Ltd.
Fee, Empire G. & F., Ltd.
Fee, State Bank of Bolivar Nos. 28, 29.
Robinson, C. N. Robinson & Walchli.
Fee, Hazelwood Oil.
Fee, R. J. Dermitt.
Fee, McAdam Oil.
Kinley Oil, J. S. Moody et al.
Meridan et al, N. V. V. Franchot, mgr. trst.
Fries, N. V. V. Franchot, mgr. trust.
Kurzhaltz, E. G. & E. W. Stephan.
Fee, Kinley Oil.
Harbel, Jacob Meridan.
Fee, C. M. & F. J. Lippert.
Fee, Leland Oil.
Fee, Miller & Bovaird.
Fee, J. E. Miller et al.
Multrust fee, C. M. Lippert et al.
McCaffery & Westran, Mrs. H. S. Westran.
Ryan, M. Shear.
Zelliff, Carmody & Fesenmyer.
Fee, George H. Zink.
Fee, H. C. & E. W. Miller.
Gerringer, John L. Gerringer et al.
Fee, Wm. F. Weidman.
Chipmank Land Co., South Penn Oil.
F. D. & B., J. H. Fee et al.
Rigs, 11; wells drilling, 33; total, 44.

BRADFORD FIELD
Rigs

Keating fee, South Penn Oil.
Keating fee, South Penn Oil.
Keating fee, South Penn Oil.
Fee, W. E. Williams 23.
Fee, W. E. & W. W. Parmenter 37.
Franchot, W. J. Oliver 22.
Fee, South Penn Oil.
Fee, South Penn Oil.
Bing., Hazelwood Oil 134.
Fee, South Penn Oil 36.
Kane, Phoenix Oil 169.
Fee, South Penn Oil 48.
Bing. 486, Grant & Mohan 11.
Bing. 582, Asso. Producers 382.
Bing. 370, R. M. & James George 33.
Bing. 540, Park & Bovaird 43.
Bing. 490, T. H. Kennedy No. 2, 148.
Wright, S. H. Elder & Co.
Fee, Davis Oil Corp. (2 rigs).
Fee, D. J. Moody.
Fee, Mix Creek Oil (2 rigs).

Wells Drilling

Fee, E. L. & Sadie Sawyer.
McDermott, John K. Cochran et al.
Fee, Cuba National Bank.
Fee, Gilligan & Dermott.
Kinley Oil, W. J. Weller et al.
Fee, Clyde Jordan.
Kinley Oil.
Ed. Hungerford et al.
Burns et al, E. Daly 11.
Fee, Hazelwood Oil 3.
Fee, L. G. Dana 24.
Franchot, Nichols & DeGolier 18.
Franchot, F. M. Johnston & Son 37.
Fee, P. J. Yeager 4.
Franchot, T. P. Thompson 12.
Fee, T. H. Kennedy 34.
Fee, G. W. Crooks est. 38.
Flickinger, C. B. Kervin.
Fee, South Penn Oil.
Fee, W. C. Kennedy Co. 61.
Bing., Hazelwood Oil 133.
Bing. 440, South Penn Oil 83.
Bing. 150, South Penn Oil 84.
Bing. 151, South Penn Oil 36.
Bing. 88, South Penn Oil 12.
Fee, Berwald & Odell 1.
Bing. 398, South Penn Oil.
Bing. 370, Hazelwood Oil 77.
Bing. 453, South Penn Oil.
Bing. 583, Asso. Producers 389.
Bing. 576, South Penn Oil 122.
Bing. 570, South Penn Oil 121.
Bing. 88, South Penn Oil 12.
Midland Keating, South Penn Oil 07.
Rumsey, South Penn Oil 131.
Kendall, South Penn Oil 64.
Newell, South Penn Oil 02.
Jones, South Penn Oil 228.
Union-Keating, South Penn Oil 78.
Blair, South Penn Oil 55.
Jones, South Penn Oil 227.
Middaugh, South Penn Oil 54.
Bing. 151-154, South Penn Oil 35.
Melvin, South Penn Oil 018.
Dent, South Penn Oil 111.
Bing. 450-474, South Penn Oil 91.
Bing-Satt., South Penn Oil 121, 122.
Smith, South Penn Oil 142.
Culbertson lots, South Penn Oil 62.
Cotton, South Penn Oil 07.
Bing. 501, South Penn Oil 18.
Bing. 400 acres, South Penn Oil 83.
Lots 5 and 6, South Penn Oil 03.
Bing. 212, South Penn Oil 45.
Bing. 400 acres, South Penn Oil 84.
Cotton, South Penn Oil 59.
Smith, South Penn Oil 145.
Lawton, Esther Oil 63.
Bing. 296, Andrus & MacDowell 113.
Lawton, Suhr, McSweeney & Co. 96.
Elder, S. H. Elder et al 22.
Bing. 391, George Bovaird 88.
Rew, Bovaird & Hamlin 40.
Bing. 369, D. W. Daly 65.
Bing. 464, R. S. Pringle 23.
Bing. 368, Wilson & Fitzgibbon 14.
Garlock, L. H. Smith & Sons (3 wells).
Germer, Linwood Oil.
Lincoln, L. H. Smith & Sons.
Rounds, J. W. Kaufman.
Fee, Curtis & Dunlavey Bros.
Borden fee, C. J. Mitchell.
Fee, Mix Creek Oil.
Riddell and South Penn Oil, Pollock et al.
Fee, Pennsylvania Oil Products Refg.
Ekas, Lloyd & Piper (2 wells).
Taylor, Forest Oil (6 wells).
Fisher, Forest Oil (4 wells).
Chamberlain, T. H. Kennedy.
Wilson, Denwood Oil.
Meehan, A. J. Vantine.
Richardson, Hope Oil.
Fee, W. J. Healy.
Boyd, Colt est.
Booth, R. L. Porter.
Fee, J. H. Gibson.
Devlin, Korner Oil.
Bishop, Kendall Refining.
Howard, Pressure Oil.
Middaugh, A. L. & L. M. Lilly.
Keating, Sloan & Zook.
Borden, Mitchell.
Irvine, C. E. Potter.
Bingham, J. L. Yerdon.
Elder, S. H. Elder & Co.
Rigs, 23; wells drilling, 113; total, 136.

MIDDLE FIELD
Wells Drilling

Lot 40, Kinzua, Valley Chemical.
Lot 49, Lesser & Lauer.
Smith, McCool Bros.
McDonald, J. L. Billstone.
Osgood, Rembold & Co. 15.
Grandin, E. Pequignot 1.
Ulf, Fidelity Petroleum.
Lot 2, Hickey & Rieg 6.
Rockwell, J. M. Sharp 5.
Wells drilling, 9; total, 9.

VENANGO-CLARION
Wells Drilling

Corwin, Brundred Oil 1.
Ross, Brundred Oil 1.
Wilson, Hovis & Lamberton Natl. Bank of Franklin 18.
Corbett & White, Corbett & White 7.
Atwell, Hoffman, Craig et al 31.
Irwin, Porter, Hoffman et al 7.
Porter hrs., J. B. Porter 23.
Kapp, W. B. & F. E. Kapp 7.
Huston, Huston & Co. 1.
Hagerty, M. H. Hagerty 2.
Clarion—
Dovenspike, Dempseytown Gas 2.
Kenemouth, H. F. Kenemouth 1.
Kenemouth, H. F. Kenemouth 1.
Kahle, A. D. Shorts et al 6.
Elder, N. T. Shorts 1.
Berlin & Exley, Fogal Oil 1.
Fry, Freeman, Edinger et al 3.
Wells drilling, 17; total, 17.

BUTLER-ARMSTRONG
Rigs

Wilson, P. McCann & Co. 1.
Boggs, Dufford, Elliott et al 2.
Marshall, R. A. Marshall 1.
O'Brien, O'Brien, Seybert & Co. 1.
Maley, M. C. Maley & Co. 1.
Duilty, Boyle, Maley & Co. 2.
Boggs hrs., R. C. & W. V. Binkerd.
Wick est., Columbus Oil.

Wells Drilling

Wagner hrs., E. C. Hatcher et al 3.
Mendel, Battenfelder & Co. 1.
Dow, Smith, Dow, Smith et al 2.
Rotzert, Rotzert Bros.
McCullough, Butler County Natl. Bank 1.
Barkley, M. B. Finnessy 24.
Rea, Amberson Rea 1.
Marshall, H. L. Marshall 3.
Trees, J. C. Trees 4.
Horner, J. S. Walker.
Rigs, 8; wells drilling, 10; total, 18.

SOUTHWEST PENNSYLVANIA
ALLEGHENY COUNTY
Wells Completed

Huff, James Weir 1 ..... dry
O'Neil, Steer & Co. 1 ..... gas

BEAVER COUNTY

Gardner, F. L. Garnly 4 1

GREENE COUNTY

Henderson, Carnegie Gas Co. 2 ..... gas
Husk, Carnegie Gas Co. 1 10
Hatfield, Carnegie Gas Co. 1 ..... gas
Clovis, Randall Gas Co. 1 ..... gas
Whipkey, McCracken & Co. 1 ..... gas
Stump, Rex, Milliken & Co. 1 ..... gas
Waters, Carnegie Gas Co. 1 ..... dry

Ely, Mfrs. L. & H. Co. 1 ..... dry
Huffman, Phila. Co. 2 ..... dry
Butan, Consumers Fuel Co. 3 30
Cowden, Cowden & Co. 1 ..... dry

Wells completed 14
Production 41
Dry 5
Gas 6

WASHINGTON COUNTY
Rig
McClay, J. & F. McClay 1.
Wells Drilling
Post, O. C. Lewis 1.
Weir, Carnegie Gas Co. 2.
Taylor, Carnegie Gas Co. 2.
Day, Mfrs. L. & H. Co. 4.
Minton, N. G. Co of W. Va. 1
ALLEGHENY COUNTY
Rig
Arbuthnot, P. J. Sohn 1.
Wells Drilling
Smith, McKinney & Co. 1 .
Miller, Morse O. & G. Co. 1.
Selleck, E. R. Buzard 1.
Grubbs, Grubbs & Co. 1.
Caroll, J. E. Walley & Co. 1.
Ringheisen, Hiland O. & G. Co. 1.
Musgrove, McClintock & Co. 3.
BEAVER COUNTY
Wells Drilling
Laughlin, Freshwater O. & G. Co. 3.
GREENE COUNTY
Rigs
J. S. Rutan, Carnegie Gas Co. 6.
Phillips, Mfrs. L. & H. Co. 1.
Wells Drilling
Headley, So P. O. Co. 3.
Jones, Carnegie Gas Co 1.
Lemley, Carnegie Gas Co. 1.
Johns, Carnegie Gas Co. 1.
M. L. Jones, Carnegie Gas Co. 1.
Fox, Carnegie Gas Co. 1.
Morris, Carnegie Gas Co. 3.
Johns, Phila. Gas Co. 1.
Lemley heirs, Fay Headlee, trustee, 3.
Livengood, Peoples Gas Co. 1.
Lynch, Peoples Gas Co. 1.
Lynch, Greensboro Gas Co. 1.
Tanner, Greensboro Gas Co. 4.
Mosier, Independent O. & G. Co. 2.
Longanaker, Long & Co. 4.
Clovis, Randall Gas Co. 1.
Earnest, Mfrs. L. & H. Co. 1.
A Rutan, Consumers Fuel Co. 3.
J. S. Rutan, Consumers Fuel Co. 3.
Stephens, Carnegie Gas Co. 1.
Johns, Carnegie Gas Co. 1.
Inghram, Mfrs. L. & H. Co. 1.
Adams, Peoples Gas Co. 1.
Rigs, 4; wells drilling, 36; total, 40.

SOUTHEAST OHIO
WELLS COMPLETED
PERRY COUNTY
Hutchinson, Hutchinson O. & G. 1.... gas
HOCKING COUNTY
Marks, Preston Oil Co. 4 9
Lane, Lime Light O. & G. Co. 1..... dry
Harden, Harden Oil Co. 1 20
Thrush, Rauber Oil Co. 4 168
Tracy Est., Kachelmacher Est. 24.... 30
Price, Preston Oil Co. 3 45
GUERNSEY COUNTY
Nation Coal Co., Wiser Oil Co. 1..... 185
J. R. Fulton, Ohio F. S. Co. 3 75
J. R. Fulton, Ohio F. S. Co. 5 50
L. J. Fulton, Ohio F. S. Co. 1 85
M. M. Fulton, Ohio F. S. Co. 1 30
Slabie, McK. Smith 3 75
Cox, Smith & Co. 1 ..... dry
Chapman, P. & B. Oil Co. 2..... gas
White, P. & B. Oil Co. 1..... gas
McCullough, P. & B. Oil Co. 1..... gas
Williams, Logan Gas Co. 1..... dry
McKinley, Jewell & Co. 1..... 3
Unity School lot, Glenn Scott 1 ..... dry
Archer, S. McCurdy & ..... dry
Hemel, Ohio Oil Co. 1..... dry
Curran, Ohio F. S. Co. 1..... dry
Joyce, Leonard O. & G. Co. 1..... 60
Ruby, E. C. Co. 1 ..... gas
Eulen, Jewell & Co. 1 10
Gilman, E. Guegenheim 1 ..... gas
Gilman, Bierch & Co. 1..... gas
Ringer, P. & B. Co. 3..... gas
Tedrick, Gambert O. & G. Co. 1..... dry
HOLMES COUNTY
Purdy, Leonard O. & G. Co. 4..... 25
Uhl, East Ohio Gas Co. 5..... 25
Beeler, Kemrow Co. 1 5
Schuler, Palmer & Co. 2..... 40
Miller, Logan Gas Co. 1..... gas
LICKING COUNTY
Galt, Mead & Co. 1 80
Phillips, Frampton Oil Co. 1..... 40
Noland, S. C. Brown 5..... 20
Noland, S. C. Brown 6..... 25
Myers heirs, Leonard O. & G. Co. 14.. 15
Myers heirs, Leonard O. & G. Co. 15.. 10
Myers heirs, Leonard O. & G. Co. 16.. 5
Myers heirs, Leonard O. & G. Co. 17.. 8
Long, Little & Co. 2..... 3
Dusk, North Fork Oil Co. 2..... 1
Carson, Carson & Co. 4..... 1
Dusthelmer, Smith & Co. 5..... 3
Jury, Patton & Co. 1..... gas
Jones, Hope C. & R. Co. 1..... 12
Lees, Norpell & Co. 1 ..... dry
Connors, Sole & Co. 3 40
Swigert, E. H. Everett Co. 2..... dry
Shipley, H. H. Everett Co. 1..... 95
Connors, Whitmore, Trustee 1..... dry
Garrett, Ark., F. O. Co. 1 3
Garrett, Ark. F. O. Co 2 3
COSHOCTON COUNTY
Markley, Ohio Oil Co. 1..... dry
Grant, Ohio F. G. Co. 1..... gas
Fender, Fender Oil Co. 4 5
MORGAN COUNTY
Woodyard, C. Woodyard 4..... dry
ATHENS COUNTY
Maxwell, Dailey & Son 1..... 3
Biddle heirs, Biddle O. & G. Co. 8..... 3
Fagan, Wehrle Bros. 1 ..... dry
Chapman, Ronhausen & Co. 1 ..... dry
Lick Run Coal Co. Glendale Oil Co. 1 dry
FAIRFIELD COUNTY
Graffis heirs, Flagdale O. & G. Co .15.. dry
Hide, Rush Creek O. & G. Co. 4..... 1
MEIGS COUNTY
Eatherday & Co. Ohio F. S. Co. 1.... 5
Carr, Creel Bros. 2 2
Harris, Rousch Bros. & Co. 1 3
WASHINGTON COUNTY
Wharton, Phillips & Co. 1..... 1
Wharton, Phillips & Co. 2..... 1
Mendenhall, First National Bank 37.. dry
Ewers, Reno Oil Co. 1 ..... gas
Mendenhall, Marietta Supply Co. 6..... dry
Coffman, Palmer & Co. 3 2
Schrumm & Co. Hope Oil Co. 2..... dry
Dickson, Beeson & Athy 2..... dry
Lawrence, W. F. Meister 1..... dry
Williams, Carner & Co. 2..... 2
Williams, Carner & Co. 4..... 2
JEFFERSON COUNTY
Silvaney, McFeely & Co. 1 ..... dry
McCullough Bros. Featner & Co. 6.... dry
Kellermire, Turner & Co. 9..... 3
Morrow, Elliott Bros. 1 ..... dry
BELMONT COUNTY
Kehm, Dollar Savings Bank 2 2
COLUMBIANA COUNTY
King, McConnell & Co. 1 ..... dry

Wells completed 57
Production 1344
Dry 26
Gas 12

MONROE COUNTY
Rig
Rose heirs, Weckbacher & Co. 2.
PERRY COUNTY
Rigs
Sunday C'k. C. Co., Sunday C'k. C. Co. 143.
Hutchinson, Hutchinson O. & G. 2.
Well Drilling
McCune, Hope C. & R. Co. 1.
HOCKING COUNTY
Rigs
Stone, Gordon Oil Co. 3.
Wolfe, Chartiers Oil Co. 4.
Nollett, Preston Oil Co. 1.
Akers heirs, Murray City O. & G. Co. 9.
Tucker, Griffin Prod. Co. 1.
Mitchell, Kachelmacer est. 1.
Wells Drilling
Pierpont, Gordon Oil Co. 7.
O'Harra, Griffin Prod. Co. 1.
Woodruff hrs., Adair & Sturm 2.
Lehman, Bell & Co. 1.
Hartzel, Golden Rod O. Co. 2.
Hass, trustee, Ohio F. S. Co. 2.
GUERNSEY COUNTY
Rigs
Booth, Logan Gas Co. 2.
Kinney, Ohio F. S. Co. 1.
Oudis, Ohio F. S. Co. 1.
McCout, Ohio F. S. Co. 1.
Black, Ohio F. S. Co. 1.
Hall, Ohio F. G. Co. 2.
McCout, Ohio F. S. Co. 4.
Wells Drilling
National C. Co., Wiser Oil Co. 2, 3.
J. R. Fulton, Ohio F. S. Co. 4, 6.
L. J. Fulton, Ohio F. S. Co. 2, 6, 7.
Slabie, McSmith & Co. 4.
White, P. & B. Oil Co. 2.
Ritchie, McCurdy & Co. 1.
Gardner, McCurdy & Co. 1.
Given, McCurdy & Co. 1.
Ritch, Ohio F. S. Co. 1.
Joyce & Co., Leonard Oil Co. 2.
McCullough, E. C. B. Co. 2.
McCate, Ohio F. S. Co. 1, 2.
Taylor hrs., Guernsey O. & G. Co. 3.
Gardner, Witmore, trustee, 2.
Cleland, Ohio F. G. Co. 1.
HOLMES COUNTY
Rigs
Sanless, Kemrow Co. 2.
McFarland, Ohio F. G. Co. 1.
Garver, East Ohio Gas Co. 1.
Uhl, East Ohio Gas Co. 5.
Anderson, East Ohio Gas Co. 5.
Nowells, East Ohio Gas Co. 2.
McCullough, East Ohio Gas Co. 2.
Wells Drilling
Allison, East Ohio Gas Co. 2.
Fites, Kemrow Co. 3.
Purdy, Kemrow Co. 1.
Miller, East Ohio Gas Co. 4.
Netherow, Empire G. & F. Co. 5.
Close, Empire G. & F. Co. 4.
Degler hrs., Empire G. & F. Co. 1.
Smithelser, Ohio Oil Co. 5.
Kendall, Pure Oil Co. 3.
Baker, East Ohio Gas Co. 7.
LICKING COUNTY
Rigs
Seward, Pure Oil Co. 6.
Phillips, Hope C. & R. Co. 5.
Wells Drilling
Brown, Hope C. & R. Co. 2.
O'Bannon & Co., Hope C. & R. Co. 2.
Hickey, Pure Oil Co. 2.
Francis hrs., M. F. Whitehill 1.
Chapin, Pure Oil Co. 1.
Rinehart, Margaret O. Co. 2.
COSHOCTON COUNTY
Rigs
McKee, Spindler & Co. 4.
Neihart, Spindler & Co. 2.
Borden, Logan Gas Co. 1.
Miller, Ohio F. G. Co. 1.
Wells Drilling
Parks, Empire G. & F. Co. 1.
Taylor, Empire G. & F. Co. 1.
MUSKINGUM COUNTY
Ashcraft Pure Oil Co. 6.
Prounty, Swisher & Co. 1.
VINTON COUNTY
Wells Drilling
Varlow, G. Varlow 1.
Beckley, Co-Operative O. Co. 5.
KNOX COUNTY
Wells Drilling
Swingle, Upham Gas Co. 1.
Logadon, Upham Gas Co. 2.
Sheldon, East Ohio Gas Co. 1.
MORGAN COUNTY
Wells Drilling
Floyd, Dailey Oil Co. 1.
Art Floyd, Hope C. & R. Co. 3.
ATHENS COUNTY
Well Drilling
Sheridan, Dailey & Son 1.
NOBLE COUNTY
Well Drilling
Harding, Ohio F. S. Co. 1.
Pitts, Yearin & Co. 1.
Shaffer, Roy Harper 2.
Britton, Saling & Co. 4.
MEIGS COUNTY
Rig
Brewer, Brewer Farm O. Co. 2.
Well Drilling
Genhiermer, Barneby & Frick 2.
WASHINGTON COUNTY
Wells Drilling
Henselman, Pouderbeck O. Co. 1.
Friedel, Dotson & Co. 1.
Baker, Herlan & Co. 1.
Alexander, Gale & Co. 1.
Holmes hrs., Johnston & Co. 79.
Ward, Carner & Co. 1.
Palmer, Weir & Schramm 1.
Hupp, Jerry Buckley 1.
JEFFERSON COUNTY
Wells Drilling
Groves & Co., Boyce & Co. 12.
Dorrence hrs., Brown, Vorhees & Co. 1.
BELMONT COUNTY
Wells Drilling
Warren, N. G. Co. of W. Va. 6.
Park & Mooney, N. G. Co. of W. Va. 1.
HARRISON COUNTY
Rig
Finacle & Co., Crane & Co. 3.
CARROLL COUNTY
Wells Drilling
Harrington, N. G. Co. of W. Va. 2.
Slates, Eaton & Co. 8.
COLUMBIANA COUNTY
Well Drilling
Perien, Geo. Keil 11.
Rigs, 30; wells drilling, 72; total, 102.

WEST VIRGINIA
WELLS COMPLETED
HARRISON COUNTY
Ritter, Ritter & Co. 1 2
MARION COUNTY
Arnett, Carnegie Gas Co. 1 ..... gas
Metz, S. N. Elliott 2 ..... dry
MONONGALIA COUNTY
Whistler, Maxon O. & G. Co. 4..... dry
Snider, Snider O. & G. Co. 1 5
Main, Phillips & Main 1 ..... dry
WETZEL AND TYLER COUNTIES
Burch, Hope C. & R. Co. 1 1
Burley, Johns Gas Co. 1 ..... gas
Ferrell, Phila. Oil Co. 2 1
Lemasters, Mfrs. L. & H. Co. 1 ..... gas
Burley, Silver Hill O. & G. Co. 4..... gas
Phillips, Walter Null 2 ..... gas
Bartrug & Co., Phila. Oil Co. 3..... 50
DODDRIDGE COUNTY
Stuttler, W. D. Gribble 1 ..... gas
Smith, Hope C. & R. Co. 5 ..... gas
Freeman, Clifton O. & G. Co. 15 ..... gas
Richards, Hope Gas Co. 1 ..... gas
Ingram, Rinehart & Co. 1 ..... dry
K. Ingram, Rinehart & Co. 1 1
Jordan, Hope Gas Co. 1 8
Wilson, So. P. O. Co. 6 20
H. S. Wilson, So. P. O. Co. 5 5
Richards, Ira D. Cox 1..... dry
Wilson, Carnegie Gas Co. 5 ..... gas
Ridgeway, Continental O. & G. Co. 4... dry
Kearns, T. A. & E. P. Mellon 1..... gas
CLAY COUNTY
Stockly, So. P. O. Co. 55 25
Stockly, So. P. O. Co. 56 ..... gas
Stockly, So. P. O. Co. 57 ..... gas
Kyle, So. P. O. Co. 11 10
Rogers, So. P. O. Co. 1 5
Hively, So. P. O. Co. 1 15
V. Bell, So. P. O. Co. 1 ..... gas
Lovkhart tract, Virginian G. & O. Co. 10 25
Brown, G. & S., Virginian G. O. Co. 20.. 5
White, King O. & G. Co. 1 ..... dry
K. D. & D., Ohio F. O. Co. 2 ..... dry
O'Dell, Womock & Co. 1 ..... gas
GILMER COUNTY
Holbert, So. P. O. Co. 1 ..... dry
WOOD COUNTY
Pope, E. E. Pope 8 ..... dry
Albright, So. P. O. Co. 7 5
McPeak, So. P. O. Co. 11 ..... dry
PLEASANTS COUNTY
Cramblett, Wiser Oil Co. 1 ..... dry
Gale heirs, Samuel & Gale 15 1
Templeton, Ambler Oil Co. 4 ..... dry
Miracle, Hall & Co. 1 ..... dry
ROANE COUNTY
Burroughs, Heck Oil Co. 5 10
Roberts & Co., Federal O. & G. Co. 38... 10
CALHOUN COUNTY
Betts heirs, W. H. Bickel 2 ..... gas
Parsons, Hope C. & R. Co. 2 ..... gas
Kelly, Hope Gas Co. 1 ..... gas
KANAWHA COUNTY
Cooper, Oakland Dev. Co. 1 ..... gas
LINCOLN COUNTY
C. Linville, Hope Gas Co. 1 ..... gas
J. Linville, Hope Gas Co. 1..... gas
Richmond, Union Gas Co. 2 ..... gas
Alderson, W. E. Cameron 4 ..... gas
Alderson, W. E. Cameron 5 ..... gas
MINGO COUNTY
Costerman, Old Colony O. & G. Co. 14... 25
BOONE COUNTY
Williams Coal Co., Pure Oil Co. 229.... gas
Federal Coal Co., Pure Oil Co. 8 ..... gas
Federal Coal Co., Pure Oil Co. 9 ..... gas
Goldbarth, So. P. O. Co. 2 ..... gas
PUTNAM COUNTY
Nicholson, Henderson Dev. Co. 1 ..... gas
Chapman, Ellis & Adkins 1 ..... gas
Sanders, Kirtley & Keller 1 ..... gas
Maddox, Colonial Gas Co. 2 ..... gas
Gillenwater, Meabon & Huffman 7 ..... gas

Wells completed 66
Production 198
Dry 14
Gas 33

LEWIS COUNTY
Rig
Parsonage Lot, Frey & Co. 1.
HARRISON COUNTY
Rig
Harbert, Carlton O. & G. Co. 2.
Wells Drilling
Martin, Hope C. & R. Co. 1.
Holden, B. Boiman 1.
Dolan, Aizpurin O. & G. Co. 2.
MARION COUNTY
Rig
Taylor, Randall Gas Co. 1.
Wells Drilling
Yost heirs, J. A. Mason 1.
Arnett, C. L. Norris 1.
R. Tennant, Hope Gas Co. 1.
Barker, Owens B. & M. Co. 1.
Knight, Owens B. & M. Co. 2.
Boor-Wise, Owens B. & M. Co. 1.
Lemley, So. P. O. Co. 1.
Snider, Clifton O. & G. Co. 1.
Yost, Mfrs. L. & H. Co. 2.
White, Randall Gas Co. 1.
WETZEL AND TYLER COUNTIES
Rigs
Wade, Carnegie Gas Co. 1.
Campbell, Denver O. & G. Co. 1.
Eddy, McIntyre Bros. 1.
Barth, Silver Hill Oil Co. 1.
Wells Drilling
Gray, Hope Gas Co. 1.
Morgan, Carr Bros. 1.
Price, Shimwell Oil Co. 1.
Snider, Mfrs. L. & H. Co. 1.
Williams heirs, J. B. Orndoff 4.
Lee, Albert Neely 3.
Barker, J. B. Morgan 1.
Postelwaite, Hope C. & R. Co. 1.
MARSHALL COUNTY
Rigs
Jochum, Spider O. & G. Co. 1.
Campbell heirs, Decem Dev. Co. 5.
Wells Drilling
Newman, Wood & Co. 1.
Howard, Mfrs. L. & H. Co. 3.
Fyles, Mfrs. L. & H. Co. 2.
Marple, Mfrs. L. & H. Co. 2.
Cole, Carnegie Gas Co. 2.
Logsdon, Hope C. & R. Co. 6.
Hicks, Lynn Camp O. & G. Co. 1.
Davis, G. B. Patterson 6.
DODDRIDGE COUNTY
Maxwell, Murphy Oil Co. 1.
Wells Drilling
Ford, Barbour Gas Co. 1.
Waldo, Nay & Kentzer 2.
Ahouse, Mfrs. L. & H. Co. 1.
Smith, Clifton O. & G Co. 1.
RITCHIE COUNTY
Rigs
Brake, Carnegie Gas Co. 2.
W. Va. Tract, Whitewood Oil Co. 29.
Swisher, Deem & Co. 3.
Mason, Mason Farm O. Co. 3.
Cain heirs, T. A. & E. P. Mellon 1.
Wells Drilling
Britton, Heckert & Co. 1.
McCosh heirs, Wilson & Co. 1.
Haught, J. Haught & Co. 1.
Gambrill, E. E. Pope 8.
W. Va. Tract, R. E. Wiles 8.
Hickman heirs, Junior Oil Co. 1.
Bradford, Rico O. & G. Co. 3.
Flesher, Little Flower Gas Co. 1.
Jordan, Hope Gas Co. 1.
Mulenax, Reno Oil Co. 4.
CLAY COUNTY
Rigs
Kyle, So. P. O. Co. 12, 13.
Phillips, So. P. O. Co. 2.
Lockhart Tract, Virginian G. & O. 12, 13.
B. G. G. & S., Virginian G. & O. Co. 21.
B. G. G. & S., O'Dell, Virginian G. & O. 4.
B. G. G. & S., Butler, Virginian G. & O. 2.
Summers, Virginian G. & O. Co. 2.
Smith, G. L. Cabot 1.
Samples, Chalmers O. & G. Co. 5.
Wells Drilling
Kyle, So. P. O. Co. 12.
Hicks, So. P. O. C. 5.
Parker, So. P. O. Co. 7.
Lockhart Tract, Virginian G. & O. 11, 12.
Summers, United Gas Co. 1.
Gross, United Gas Co. 1.
Moore, United Cas Co. 1.
GILMER COUNTY
Rig
Tiere, James Tierney 3.
Well Drilling
Bell, Roberts & Co. 1.
WIRT COUNTY
Well Drilling
Dequesie-Bell, Patterson & Co. 8.
WOOD COUNTY
Rig
Crocker, Dollman & Kingsley 3.
Wells Drilling
Smith-Goldish, Smith & Goldish 2.
Roberts, B. E. Crippin 1.
Goff, Peter Smith 1.
Upton, T. Connolly 1.
Vaughn, S. L. Anderson 1.
Barrett, So. P. O. Co. 2.
Masters, So. P. O. Co. 6.
Goodwin, Forrest Cline Oil Co. 2.
PLEASANTS COUNTY
Rig
Dennis, L. C. White 1.
Wells Drilling
McTaggart, Smith Bros. & Co. 1.
ROANE COUNTY
Rig
Conley, Heck Oil Co. 9.
Wells Drilling
Taliman, Heck Oil Co. 1.
Berry, M. F. Crowley 3.
Slider, M. F. Crewley 1.
Roberts & Co., Federal O. & G. Co. 39.
Curry, John Hamilton Oil Co. 1.
CALHOUN COUNTY
Rigs
Snyder, Chemical Oil & Gas Co. 1.
Knight heirs, Hope C. & R. Co. 1.
Deweese, Hope C. & R. Co. 2.
Wells Drilling
Parsons, Hope C. & R. Co. 3.
Westfall, Lewis & Co. 1.
Hardman, W. H. Bickel 1.
Stump, Ohio Fuel Oil Co. 1.
KANAWHA COUNTY
Wells Drilling
Fields, So. P. O. Co. 1.
Osborne, United Carbon Co. 16.
Taylor, United Fuel Gas Co. 1.
LOGAN COUNTY
Well Drilling
Yawkey-Freeman, So. P. O. Co. 24.
LINCOLN COUNTY
Rigs
Stone, Foote O. & G. Co. 1.
Alderson, W. E. Cameron 7.
Maderen, Cameron Gas Co. 1.
Wells Drilling
Vangundy, Cambridge Gas Co. 1.
Miller, David Gas Co. 1.
Lucas, Cambridge Gas Co. 1.
Lincus, Sweetland & Co. 3.
Samuel, C. C. Wolfe 3.
Sweetland, L. R. Sweetland 18.
Sias, Roy & McComas 3.
VanGundy, Cambridge Gas Co. 1.
Sears, Roy & McComas 3.
MINGO COUNTY
Wells Drilling
L. C. C. Co., Old Colony O. & G. Co. 25.
Caldwell, Old Colony O. & G. Co. 2.
BOONE COUNTY
Rig
Goldbarth, So. P. O. Co. 3.
Wells Drilling
Williams Coal Co., Pure Oil Co. 230, 232.
Federal Coal Co., Pure Oil Co. 11, 19, 20.
L. R. & P., Pure Oil Co. 28.
L. R. & P. Tract B, Pure Oil Co. 18.
Cassingham, Owens Bottle & Machine Co. 13.
Bedford, Owens Bottle & Machine Co. 12.
Bull Creek C. & L. Co., Owens Bottle & Machine Co. 10.
Arbogast, G. L. Cabot 3.
Seiler, Pgh. & W. Va. Gas Co. 2.
Horse Creek C. & L. Co., United Fuel Gas Co. 1.
CABELL COUNTY
Rig
Conner, Harshbarger O. & G. Co.
Well Drilling
Harshbarger, Big Ten Mile Gas Co. 1.
Davidson, Aetna O. & G. Co. 4.
Finley, Monickel Gas Co. 1.
Rucker, Monickel Gas Co. 2.
PUTNAM COUNTY
Wells Drilling
Sanders, Kirtly & Keller 2.
Gibson, Dalton & Franklin 1.
Bird, C. C. Wolfe & Co. 1.
WAYNE COUNTY
Wells Drilling
Damron, Chartiers Oil Co .2.
Rigs, 37; wells drilling, 105; total, 142.

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	2	0	1	1	1	3	4
Ashland	0	0	0	0	4	12	16
Medina	6	8	2	1	5	4	9
Lorain	0	0	0	0	3	2	5
Wayne	0	0	0	0	1	4	5
Holmes	3	285	0	1	12	11	23
Athens	0	0	0	0	2	6	8
Cuyahoga	6	0	2	4	0	8	8
Coshocton	3	0	1	2	3	2	5
Jackson	0	0	0	0	0	1	1
Summitt	0	0	0	0	1	1	2
Total May	20	293	6	9	32	54	86
Total Apr.	31	347	9	16	13	37	50
Difference	11	54	3	7	19	17	36

WELLS COMPLETED

KNOX COUNTY

Jefferson—C. T. Stout, East Ohio Gas 1 dry
Brown—Phil Bross, Upham Gas 3 .... gas

Wells completed 2
Dry 1
Gas 1

MEDINA COUNTY

Lafayette—A. J. House, Daugherty Bros. Paul Rerto, M. C. & G. K. Rogers 1 .. gas
2 ..... dry
Chatham—W. P. Wertz, E. R. Edson & Son 18 4
W. P. Wertz, E. R. Edson & Son 19 .. 2
Carl G Packard No. 1, E. R. Edson & Son 31 2
Wertz-Packard, E. R. Edson & Son 4 dry

Wells completed 6
Production 8
Dry 2
Gas 1

HOLMES COUNTY

Hardly—Jacob Uhl, East Ohio Gas 5 .. 125
Geo. Schuler, Waree Palmter & Co. 2 160
Knox—Catherine Kayler, I. E. O'Hail 1 gas

Wells completed 3
Oil wells 2
Production, oil 285
Gas 1

CUYAHOGA COUNTY

Dover—C. Jenkins, Wiser Oil 1 ..... dry
G. W. Jenkins, Wiser Oil 2 ..... gas
G. Gessner, Arthur & Simpson 1 .... dry
C. L. Harrison, Arthur & Simpson 2 . gas
M. Harrison, Arthur & Simpson 2 .. gas
Olmstead—G. H. Barnum, Hulse & Kundtz 1 ..... gas

Wells completed 6
Dry 2
Gas 4

COSHOCTON COUNTY

Monroe—Jonathan Gant, Ohio Fuel Gas 1 gas
Peter Lepley, Empire Gas & Fuel 2 . gas
Adam Markley, The Ohio Oil 1 .... dry

Wells completed 3
Dry 1
Gas 2

KNOX COUNTY
Rig

Jefferson—P. B. & M. Strobel, East Ohio Gas 1.

Wells Drilling

Jefferson—J. F. & G. Staals, East Ohio Gas 1.
Catherine Logsdon, Upham Gas 2.
John C. Reyburn, Upham Gas 2.
Rigs, 1; wells drilling, 3; total, 4.

ASHLAND COUNTY
Rigs

Orange—D. W. Shively, The Logan Gas 1.
Hanover—Geo. Wilson, The Logan Gas 1.
Sullivan—D. E. Spencer, The Ohio Fuel Gas 1.
Green—Fred Snively, The Logan Gas 1.

Wells Drilling

Orange—J. E. Shopbell, The Logan Gas 1.
Hanover—D. E. Slide, Ohio Fuel Gas 1.
Sullivan—Frank Stine, Ohio Fuel Gas 1.
W. J. Harvnot, The Logan Gas 2.
Ross & Francis Langford, The Logan Gas 1.
Clear Creek—Chas. Brown, The Logan Gas 1.
Lewis A. Bahn, The Logan Gas 1.
A. N. Robison, J. E. Ringle & Co. 1.
Glen Calhoun, The Kenrow Co. 1.
Green—Electra J. Wallace, Ohio Fuel Gas 1.
Harriett & I. C. Charles, The Logan Gas 1.
Daniel Dennis, The Logan Gas 1.
Rigs, 4; wells drilling, 12; total, 16.

MEDINA COUNTY

Liverpool—Geo. Zacharias, The Logan Gas 1.
Jos A. Walter, The Logan Gas 1.
W. E. Boje, Ohio Fuel Gas 1.
Granger—J. N. Ganyard, Empire Gas & Fuel 1.
Brunswick—Geo. & Tim Metzger, The Logan Gas 1.

Wells Drilling

Lafayette—Derhammer & Dorr, Ohio Fuel Gas 1.
Earl P. Shaw, Ohio Fuel Gas 1.
Chas H. Puchhas, Empire Gas & Fuel 3.
Medina—Chas. C. Weibber, Empire Gas & Fuel 1.
Rigs, 5; wells drilling, 4; total, 9.

LORAIN COUNTY
Rigs

Columbia—Hannah Hudson, East Ohio Gas 1.
G. H. Wetzel, Ohio Fuel Gas 1.
Grafton—W. A. Law, Ohio Fuel Gas 1.

Wells Drilling

Penfield—J. F. Worcester, Hawk & Co. 1.
Columbia—H. C. Martin, Ohio Fuel Gas 1.
Rigs, 3; wells drilling, 2; total, 5.

WAYNE COUNTY
Rig

Chester—Paul D. Grady, Ohio Fuel Gas 1.

Wells Drilling

Chester—Catherine Funk, Ohio Fuel Gas 3.
Cannan—Daniel Wiles, Butler Bros. 4.
Milton—John Bannan, East Ohio Gas 1.
Congress—C. & A. Smith, The Logan Gas 1.
S. A. Swanson, Brenner & Brenner 1.
Rigs, 1; wells drilling, 4; total, 5.

HOLMES COUNTY
Rigs

Hardy—Harvey & Helen Bell, East Ohio Gas 3.
John R. Hastings, East Ohio Gas 4.
Dave R. Anderson, East Ohio Gas 4.
Etta J. Nowels, East Chio Gas 2.
Delpha Nethrow, Empire Gas & Fuel 6.
Degler hrs., Empire Gas & Fuel 2.
Monroe—Stephen R. Williams, East Ohio Gas 1.
Mechanics—John Bucklow, Empire Gas & Fuel 1.
Prairie—A. J. Baker, East Ohio Gas 7.
Knox—L. S. Sidle, The Logan Gas 1.
Richland—G. W. & G. Garver, East Ohio Gas 1.
J. H. McFarland, Ohio Fuel Gas 1.

Wells Drilling

Hardy—J. E. Miller, East Ohio Gas 4.
Harriett McCullough, East Ohio Gas 2.
W. H. Uhl, East Ohio Gas 5.
Delpha Nethrow, Empire Gas & Fuel 5.
Jesse P. Close, Empire Gas & Fuel 4.
Degler hrs., Empire Gas & Fuel 1.
Monroe — Mary A. Beeler, The Kemrow Co. 1.
Salt Creek—Adam Karch, Empire Gas & Fuel 1.
Kilbuck—C. P. & L. Allison, East Ohio Gas 2.
Albert C. Fites, The Kemrow Co. 3.
Richland—Melvin V. Purdy, The Kemrow Co. 1.
Rigs, 12; wells drilling, 11; total, 23.

ATHENS COUNTY
Rigs

Carthage—J. W. Barnhill, The Logan Gas 5.
S. A. Wilson, The Logan Gas 3.

Wells Drilling

Carthage—C. E. Bradford, Goddard & Cunningham 1.
Oliver Davis, Hawkins & Co. 1.
Eliza Dunlavy, Ohio Fuel Gas 1.
S. S. Hoffman, Ohio Fuel Supply 1.
C. D. Swartz, Cooper & Co. 3.
Waterloo—Lafayette Hewitt, Guenther & Co. 2.
Rigs, 2; wells drilling, 6; total, 8.

CUYAHOGA COUNTY
Wells Drilling

Dover—Demott Winslow, The Logan Gas 2.
J. McDongal, Arthur & Simpson 1.
A. M. Witham, Arthur & Simpson 1.
A. E. Gauge, Arthur & Simpson 3.
Emma Vall, Wiser Oil 1.
Strongville—Geo. Zeig, Dillon & McFredericks 1.
Olmstead—J. Bainbridge, Hulse & Kundtz 1.
W. D. Camp, Merkle & Harrison 1.
Wells drilling, 8.

COSHOCTON COUNTY
Rigs

Monroe—Oliver Borden, The Logan Gas 1.
M. J. Nyhart, East Ohio Gas 2.
Perry—Oliver McMillan, The Preston Oil 1.

Wells Drilling

Monroe—C. M. Parks, Empire Gas & Fuel 1.
Clark—H. E. Taylor, Empire Gas & Fuel 1.
Rigs, 3; wells drilling, 2; total, 5.

JACKSON COUNTY
Wells Drilling

Franklin—W. L. Kennon, The Logan Gas 2.

SUMMITT COUNTY
Rig

Richfield—I. J. & Lillie Woodruff, East Ohio Gas 1.

Wells Drilling

Franklin—J. & E. Boettler, F. A. Brendall & Co. 1.
Rigs, 1; well drilling, 1; total, 2.

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	3	72	0	0	1	5	6
Hancock	5	11	2	1	0	2	2
Allen	2	71	0	0	0	1	1
Auglaize	1	3	0	0	0	2	2
Sandusky	2	10	0	0	0	2	2
Mercer	3	18	0	0	0	1	1
Van Wert	0	0	0	0	0	1	1
Seneca	2	27	0	0	2	1	3
Lucas	1	5	0	0	0	2	2
Ottawa	0	0	0	0	0	1	1
Shelby	1	2	0	0	0	3	3
Hardin	2	65	0	0	0	1	1
Darke	0	0	0	0	0	3	3
Paulding	0	0	0	0	0	1	1
Wyandot	0	0	0	0	0	1	1
Total May	22	284	2	1	3	27	30
Total Apr.	23	183	4	2	2	29	31
Difference	1	101	2	1	1	2	1

WELLS COMPLETED

WOOD COUNTY

Montgomery—Barbara McSorley, Onsel Bros 1 ..... abd
Freedom—Geo. Blessing, The Winchell Oil & Burnett 1 ..... abd
Henry—Lawrence Cable, The Ohio Oil 45 ..... abd
Liberty—E. B. Phillips, The Ohio Oil 12 abd
J. E. Hummel, The Ohio Oil 3, 13 .. abd
Bloom—Browning, Clark A. Browning 24 27
Middleton—Fred Geldin Jr., Geo. L. Haubert & Co. 5 5
Lake—Otto Brim, Chas F. Zeising & Co. 2 40
Christ Boysen, Boysen & Brim 1 .. abd
Troy—Herman Linke, D. J. Klingman 8, 9 ..... abd
Lewis Hille, D. J. Klingman 7, 8 .. abd

Wells completed 3
Production 72
Abandoned 11

HANCOCK COUNTY

Portage—Isaac Hart, Mathias Bros. 12 9
Eagle—Rinehart, Bert A. Rinehart 1 .. gas
Marion—L. Wolfe, Denhoff Bros. 1 .. dry
Gus Snyder, Geo. Snyder 2 ..... dry
Biglick—Nancy Schuert, R. W. Kirk & Co. 1 2

Wells completed 5
Production 11
Dry 2
Gas 1

ALLEN COUNTY

Bath—Sam H. Vore, C. A. Peavey 8 .. 65
Sugar Creek—J. H. Jacobs, James M. Jacobs 8 6
Marion—Judkins & Ford, The Ohio Oil 2 ..... abd
David Culp, The Ohio Oil 4 ..... abd
American—Good & Tucker, William Lang 2 ..... abd

Wells completed 2
Production 71
Abandoned 3

AUGLAIZE COUNTY

Moulton—M. Kelly, H. F. Kelly & Co. 1 3

SANDUSKY COUNTY

Woodville—F. Dischinger, The Ohio Oil 2 5
Jackson—W. A. Heyman, Milton J. Beaty 15 5
W. A. Heyman, Milton J. Beaty 7 .. abd
Scott—Hattie M. Sheffler, E. S. Orris & Co. 2, 3, 4, 6, 8, 9 ..... abd

Wells completed 2
Production 10
Abandoned 7

MERCER COUNTY

Recovery—H. J. Stackler, A. W. Neely & Co. 8 9
Hopewell—S. & J. Hoenie, T. G. Ayres 2 1
Center—James Harner, A. C. Grace 1 .. 5

Wells completed 8
Production 18

SENECA COUNTY

Jackson—M. E. Steinbrook, Onsel Bros. 7 25
Eden—Frank Funk, Great Northern Oil 1 2

Wells completed 2
Production 27

LUCAS COUNTY

Oregon—Gertrude J. Niles, The Ohio Oil 48 5

SHELBY COUNTY

Cynthian—Matt Zimmerman, Wittmer Property 4 2

HARDIN COUNTY

McDonel—Earl Hites, H. E. Schmidt 5 . 35
A. R. Zimmerman, Hardin Oil & Gas 9 30

Wells completed 2
Production 65

WOOD COUNTY
Rig

Liberty—Ely Stockwell, Mattie S. Rouse & Co. 23.

Wells Drilling

Liberty—E. A. Judson, Hulse & Kundtz 2.
Perryburg—Catherine Smith, George L. Haubert & Co. 2.
Geo. Deverna, Oko Oil & Gas 12.
Mary Ritzel, Huffman & Co. 1.
Troy—Lewis Hille, Lewis Hille 2.
Rig, 1; wells drilling, 5; total, 6.

HANCOCK COUNTY
Wells Drilling

Pleasants—Sarah Rader, Eastern Oil 3.
Cains & Henry, Bath Township Oil 6.
Wells drilling, 2.

ALLEN COUNTY
Well Drilling

Bath—Sam H. Vore, C. A. Peavey 9.

AUGLAIZE COUNTY
Wells Drilling

Douchouquet—C. Vossler, Vossler Oil 5.
Washington—Fred Weitz, Texter & Co. 1.
Wells drilling, 2.

SANDUSKY COUNTY
Wells Drilling

Woodville—W. H. Bruns, The Ohio Oil 1.
Washington—J. & J. J. Hufford, Milton J. Beaty 3.
Wells drilling, 2.

MERCER COUNTY
Well Drilling

Center—James Harner, A. C. Grace 2.

VAN WERT COUNTY
Well Drilling

Liberty—John Chilcote, Chilcote Oil & Gas 3.

SENECA COUNTY
Rigs

Clinton—Chas. Shaul, Shaul & Geiger 1.
Liberty—John Harrison, Murphy & Co. 1.

Well Drilling

Eden—Frank Funk, Great Northern Oil 2.
Rigs, 2; wells drilling, 1; total, 3.

LUCAS COUNTY
Wells Drilling

Oregon—R. A. Bartley, Fred Keister 10.
Monclova—Wm. Black, L. W. Vermyle Rec. 2.
Wells drilling, 2.

OTTAWA COUNTY
Well Drilling

Danbury—Fred Block, The Ohio Oil 1.

SHELBY COUNTY
Wells Drilling

Cynthian—W. A. Paulus, Ellerman Oil 2.
Theressa Goffena, The Ohio Oil 6.
Van Buren—F. W. H. Kuckerman, Brookside Oil 2.
Wells drilling, 3.

HARDIN COUNTY
Well Drilling

McDonel—Earl Hites, H. E. Schmidt 6.

DARKE COUNTY
Wells Drilling

Mississinewa—J. E. Schmertz, Illindo Oil 6.
S. V. Ainsworth, R. D. Hance 1.
Allen—G. L. Toman, Hance & Hoffman 5.
Wells drilling, 3.

PAULDING COUNTY
Well Drilling

Benton—J. M. Henry, T. Thomas Knerr & Co. 1.

WYANDOT COUNTY
Well Drilling

Ridge—C. A. Cooper, South Bend Producers 1.

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Rigs	Drg.	Ttl.
Saginaw	25	434	1	12	47	59
Alcona	0	0	0	0	1	1
Crawford	0	0	0	0	1	1
Gratiot	0	0	0	0	1	1
Iosco	0	0	0	0	1	1
Wayne	0	0	0	0	1	1
Genessee	0	0	0	0	1	1
Total May	25	434	1	12	53	65
Total April	19	353	3	7	46	53
Difference	6	81	2	5	7	12

WELLS COMPLETED

SAGINAW COUNTY

Saginaw—Scherzer, Saginaw Prospecting 2 15
Northmoor, Saginaw Prospecting 2 .. 20
Mershon Vineyard, Saginaw Prospecting 2 35
George Kuck, The Sun Oil 1 5
Henry Deibel, The Sun Oil 1 2
J. W. Weiss, The Sun Oil 3 20
John Schoenteit, The Sun Oil 7 15
Louis Voight, The Sun Oil 2 10
A. Kull, The Ohio Oil 1 ..... dry
Dittmar-Raths, Fordney Petroleum -- 30
Oakland Vinegar, Fordney Pet. 1 25
W. J. Mason, Fordney Pet. 1 20
J. M. Gleeson, Fordney Petroleum 1 . 20
Albert E. Pelky, Superior Oil 1 15
Albert Heyse, Superior Oil 1 15
Lutheran Church, Super or Oil 1 20
Near Clark & Michigan Ave. Cavanaugh Oil 1 15
Frank Teck, J. & S. Development 1 .. 20
Clark & Michigan, J. & S. Development 1 20
Foot Tuscola St. Schwinck Oil 1 .. 40
Mrs. Julia Gelinas, Bourdow Bros. 1 20
Cronk St. Elliott Miner 1 20
Clark & Michigan Sts. Hickory Oil 1 25
Fisher, Ohio Fuel Corp. 4 5
Clarence Clark, Wm. M. Bradley & Son 1 12

Wells completed 25
Production 434
Dry 1

SAGINAW COUNTY
Rigs

Saginaw—Northmoor, Saginaw Prospecting 3.
August Kruscha, Saginaw Prospecting 2.
Eddy Estate, Saginaw Prospecting 1.
Madison & Hermansau Roads, Saginaw Prospecting 1.
Hanson, Saginaw Prospecting 2.
John Stelzreide & Co., The Sun Oil 1.
Ash & Schaefer Sts., Cross Petroleum 1.
C. R. Phillips, Barker Oil & Gas 1.
Laundra, Ohio Fuel Corp. 2.
Geo. Boldebuck, Bliss Petroleum 2.
Schusta, Schusta Co. 1.
Foot Fitzhugh St., Wm. M. Bradley & Son 1.

Wells Drilling

Saginaw—Geo. Deindorfer, Saginaw Prospecting 4.
North Shattuck Road, Saginaw Prospecting 1.
Brechtelsbauer Road, Saginaw Prospecting 3.
Deindorfer woods, Saginaw Prospecting 6.
Dr. D. E. Bradshaw, The Sun Oil 3.
Wm. Seidel, The Sun Oil 1.
John Stelzreide, The Sun Oil 3, 4.
George Kuck, The Sun Oil 2.
Nuerminger, The Sun Oil 3.
F. H. Kline & Co., Cross Petroleum 1.
Mrs. Carrie Reed, V. M. Vorhees & Co. 1.
Strable, Strable Lumber & Salt 1.
Palmer-Wells-Schmidt Co. 1.
Cuthbertson, Detroit parties 1.
Oakley St., The Ohio Oil 1.
Mershon-Eddy, The Ohio Oil 5, 6.
M. Franz, The Ohio Oil 1.
John Silva, J. & S. Development 1.
Clark & Michigan Sts., J. & S. Development 1.
Eddy & Ash Sts., James Cooper 1.
Foot State St., James Cooper 1.
Ace Ball Park, Fordney Petroleum 3.
Oakley & Reed, Fordney Petroleum 1.
Hermansau & Madison, Fordney Petroleum 1.
Herman Knight, Fordney Petroleum 1.
Fred A. Gardner, Fordney Petroleum 1.
Griencorn, Fordney Petroleum 1.
Reed & Pleasants, Fordney Petroleum 1.
John King, Superior Oil 1.
F. Chesbrough & Co., Crescent Oil 1.
Benjamine, A. W. Benjamine Trus. 1.
Householder, Frank H. Higinbottom Trus. 1.
Brechtelsbauer, Myron E. Lee 3.
Knuttell-Bennett, Flint Oil & Gas 1.
Braun, Wayco Producing 2.
Morley Bros., Morley Bros. 1.
Schwartz Bros., Charles A. Schwartz 1.
Fred Engle, Bliss Petroleum 2.
Birch Run—at Sauve, B. & B. Pet. 1.
Unknown, Johnson & Co. 1.
Courtney, R. L. Hill & Co. 1.
Edward Koba, W. E. Ellis & Co. 1.
Spaulding—Thos. Holhan, Charles Hunt 1.
Taymouth—George Judd, S. M. Bacon & Co. 1.
Frankenmuth—Christian Rogner, Michigan Petroleum 1.
Rigs, 12; wells drilling, 47; total, 59.

ALCONA COUNTY
Well Drilling

Sec. 22, Haynes Twp., Alcona Prospecting 1.

CRAWFORD COUNTY
Well Drilling

Near Grayling—Unknown parties 1.

IOSCO COUNTY
Well Drilling

Near Tawas—Robert Gage Oil 1.

GRATIOT COUNTY
Well Drilling

Near Ashley—The Sun Oil 1.

WAYNE COUNTY
Well Drilling

Near Trenton—Unknown parties 1.

GENESSEE COUNTY
Well Drilling

Near Mt. Morris—Detroit Interests 1.

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Rigs	Drg.	Ttl.
Clark	3	65	2	3	3	6
Crawford	0	0	0	0	8	8
Lawrence	2	70	1	0	3	3
Wabash	2	20	1	2	4	6
Clinton	1	0	1	0	0	0
Morgan	0	0	0	0	1	1
Marshall	0	0	0	0	1	1
Madison	0	0	0	0	2	2
Macon	0	0	0	0	1	1
Shelby	0	0	0	0	1	1
Coles	1	0	1	0	0	0
St. Clair	0	0	0	0	1	1
Tazewell	0	0	0	0	1	1
Total May	9	155	6	5	26	31
Total Apr.	15	327	6	3	29	32
Difference	6	172	0	2	3	1

WELLS COMPLETED

CLARK COUNTY

Casey—John Fain, E. A. Ruedy & Co. 1 dry
Johnson—H. V. Blakeman, W. C. McBride, Inc. 1 ..... dry
Martinsville—John McNurlin, Rhodes & Keith 1 65

Wells completed 2
Production 65
Dry 2

LAWRENCE COUNTY

Dennison—J. E. Buchannan, The Ohio Oil 7 ..... dry
C. M. Irwin, The Ohio Oil 9 70

Laura Gillespie, The Ohio Oil 5 .... abd
W. H. Pemberton, Pemberton Oil & Gas 16 .... abd

Wells completed 2
Production 70
Dry 1
Abandoned 2

WABASH COUNTY

Wabash—W. M. Price, Miller & Karns 1 20
Holson-Dorney, Dain Oil 7 .... dry

Wells completed 2
Production 20
Dry 1

CLINTON COUNTY

Brookside—John Knohloff, Mt. Vernon Development 1 .... dry

MARION COUNTY

Centralia—Webster, Webster Drilling 2 abd

COLES COUNTY

Ashmore—Luther Houghton Shrider & Co. 2 .... dry

CLARK COUNTY
Rigs

Darwin—Martin Wernz, Unknown parties 1.
Melrose—Alexander, Arkansas Oil 1.
York—Balzarr Bubeck, Unknown parties 1.
Wells Drilling
Casey—W. Davis, W. C. McBride, Inc. 1.
Johnson—Norman Bennett, W. C. McBride Inc. 1.
S. W. Byram, W. C. McBride, Inc. 1.
Rigs, 3; wells drilling, 3; total, 6.

CRAWFORD COUNTY
Wells Drilling

Martin—Ira Renchen, Karnes & Co. 7.
Honey Creek—J. E. Cullom, Barlow & Co. 1.
C. Hoke, H. D. Barker & Co. 1.
Chas. J. Weger, Craig, Lowrie & Co. 17.
R. Heath, John Phipps & Co. 4.
Licking—P. A. Matheney, Southerland & Co. 1.
Lamotte—I. H. Buzzard, Hartman, Sargent & Co. 1.
Montgomery—J. W. Armstrong, Dill & Co. 1.
Wells drilling, 8.

LAWRENCE COUNTY
Wells Drilling

Dennison—J. E. Lingenfelder, Kewanee Oil & Gas 24.
W. E. Robbins No. 2, The Ohio Oil 17.
Lukin—B. Eason, Frank Ellison 1.
Wells drilling, 3.

WABASH COUNTY
Rigs

Wabash—Jesse Cisil, C. E. Bothwell 4.
L. G. Stillwell, Breen Oil 1.
Wells Drilling
Wabash—E. Banks, A. L. Gher & Co. 1.
Polly Barney, J. S. Young Jr. & Co. 1.
J. B. Clark, Phipps & Blosser 1.
Friendsville—G. L. Crum, Miller & Lengelsen 1.
Rigs, 2; wells drilling, 4; total, 6.

MORGAN COUNTY
Well Drilling

Jacksonville—O. F. Conklin, Erwin & Co. 5.

MARSHALL COUNTY
Well Drilling

Near Toluca—R. R. Irwin, Unknown parties 1.

MADISON COUNTY
Wells Drilling

Namcoki—Goodrich, Goodrich Bros. 1.
Pine Oak—Gussweiler, Assembly Oil & Gas 1.
Wells drilling, 2.

MACON COUNTY
Well Drilling

Hickory Point—A. Parris, Powers & Co. 1.

SHELBY COUNTY
Well Drilling

Holland—Wm. Prosser, A. L. Gunther 1.

ST. CLAIR COUNTY
Well Drilling

Sec. 24-12-8w—E. S. Mason & Co. 1.

TAZEWELL COUNTY
Well Drilling

Sec. 2-26-3ew—J. L. Palmer 1.

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	0	1	1
Blackford	0	0	0	0	0	1	1
Jay	3	20	2	0	0	3	3
Adams	3	115	1	0	0	7	7
Grant	0	0	0	0	0	1	1
Gibson	4	157	1	1	0	5	5
Pike	1	0	1	0	0	5	5
Daviess	4	20	2	0	0	5	5
Sullivan	1	2	0	0	0	3	3
Vigo	0	0	0	0	0	4	4
Allen	0	0	0	0	2	0	2
Knox	0	0	0	0	0	1	1
Dubois	0	0	0	0	0	1	1
Benton	0	0	0	0	0	1	1
Johnson	0	0	0	0	0	1	1
Marion	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Martin	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	1	1
Spencer	0	0	0	0	0	2	2
Warrick	1	0	1	0	0	1	1
Perry	0	0	0	0	0	1	1
Bartholomew	1	0	0	1	0	1	1
Miami	0	0	0	0	0	1	1
White	0	0	0	0	0	1	1
Decatur	0	0	0	0	0	1	1
Rush	1	0	0	1	0	0	0
Total May	19	314	8	3	2	51	53
Total Apr.	28	310	16	1	3	45	48
Difference	9	4	8	2	1	6	5

Wells Completed
WELLS COUNTY

Nottingham—Thomas Prouty, A. Albrecht 1 .... abd
W. B. Settle, A. Albrecht 1 .... abd

Abandoned 2

JAY COUNTY

Penn—A. C. Brown, Hecter & Martin 1. dry
Bear Creek—C. Brinkerhoff, R. P. Ridenour Trustee 4 20
Jackson—P. Hamilton, James J. Adams 13 .... abd
Knox—D. R. Hapner, Saunders & Masters 1 .... dry

Wells completed 3
Production 20
Dry 2
Abandoned 1

ADAMS COUNTY

Jefferson—W. Greenfield, George Slee Oil & Gas 1 100
Fred Kauffman, G. B. W. Oil & Gas 4. 15
Hartford—M. J. Martin, D. Abronson 9. abd
Jacob F. Masser, D. Abronson 6 .... abd
Wabash—Adair, Russell & Co. 1 .... dry

Wells completed 3
Production 115
Dry 1
Abandoned 2

GIBSON COUNTY

Washington — Frank Thompson, Bell Bros. 1 .... gas
Barton—H. E. Raiborn, Gem. Oil Corp. 3 7
Johnp Manahan, Bell Bros. 3 .... dry
Center—D. Jenecius, J. S. Young Jr. & Co. 1 150

Wells completed 4
Production 157
Dry 1
Gas 1

PIKE COUNTY

Logan—John Miley, Rendal & Co. 1.... dry
Annie E. Falls, Andrews & Burton 1 abd
N. W. Shafer, United Petroleum 3.... abd

Wells completed 1
Dry 1
Abandoned 2

DAVIESS COUNTY

Veale—Allison, Cavinal & Co. 1 5
Allison, Cavinal & Co. 2 5
Jesse Swan, Hartman-Sargent 2 10
National City Bank, Home Oil 1 .... dry
Near Corning—J. Kehoe, Thorne Oil & Gas 1 .... dry

Wells completed 4
Production 20
Dry 2

SULLIVAN COUNTY

Turman—Alex Raley, Raley Oil 4 2

WARRICK COUNTY

Pidgeon—Veck-Folson, Turner Oil & Gas 2 .... dry

BARTHOLOMEW COUNTY

Ohio—Lee, Granville Lee 1 .... gas

RUSH COUNTY

Center—Lee Hall, Cambridge Gas 1 .... gas

DELAWARE COUNTY

Monroe—C. E. Sutton, Producers Supply 3, 4, 8, 10 .... abd
J. Cline, Producers Supply 2, 3, 4, 5, 6 abd
Sarah McAllister, Producers Supply 1 abd

Abandoned 10

RANDOLPH COUNTY

Monroe—J. Meeks, C. F. Chapman 3, 4, 5 .... abd
W. D. Stuck, C. F. Chapman 1, 6, 7.. abd
Charles Jackson, C. F. Chapman 2, 3 abd
Martha Adams, C. F. Chapman 1, 2.. abd
Jackson—S. J. Brunson, M. B. McCarty 1 .... abd

Abandoned 11

WELLS COUNTY
Well Drilling

Liberty—J. K. Davis, Lewis Oil 11.

BLACKFORD COUNTY
Well Drilling

Washington—Charles Barton, Herman & Roberts 1.

JAY COUNTY
Wells Drilling

Penn—Gennwell, Pennville Oil & Gas 1.
J. E. Gardner, Twin Hills Oil 1.
N. Thomas, A. O. P Oil 6.
Wells drilling, 3.

ADAMS COUNTY
Wells Drilling

Jefferson—W. Greenfield, George Slee Oil & Gas 2.
Abraham Egly, George Slee Oil & Gas 1.
Blue Creek—Geo. Shrank, Sshulte O. & G. 4.
Hartford—A. Egly, Richberne Oil & Gas 1.
Wabash—Dr. Wilson, Haines & Co. 3.
C. A. Neuenschwander, George Slee Oil & Gas 1.
Monroe—Stengell & Craig, Richard Petroleum 2.
Wells drilling, 7.

GRANT COUNTY
Well Drilling

S. E. Part County—Simon Leach, Fowlerton Oil & Gas 1.

GIBSON COUNTY
Wells Drilling

Washington—M. A. Mauck, Gray, Morrisey & Co. 2.
Montgomery—John Enlow, Enlow & Co. 1.
Barton—S. M. & W. S. Ferris, Gem Oil Corp 1.
Center—D. Janecius, J. S. Young Jr. & Co. 2.
Union—J. & A. Yeager, Carter & Co. 1.
Wells drilling, 5.

PIKE COUNTY
Wells Drilling

Logan—Pink Atkinson, Alex Singer & Co. 1.
William Miley, J. Morrisey & Co. 1.
Lona Miley, Claud Chandler & Co. 1.
Washington—County Farm, A. B. Bement 1.
Co. 1.
Jefferson—Scherolucker, H. D. Smith & Wells drilling, 5.

DAVIESS COUNTY
Wells Drilling

Veale—L. I. Veale, Hartman & Sargent 1.
Crosby, Bell Bros. 1.
T. Ragsdale heirs, Peek Oil 2.
Reeves—Pat Nolan, Bell Bros., Phipps & Blosser 3.
S. E. Part County—Robinson, Unknown parties 1.
Wells drilling, 5.

SULLIVAN COUNTY
Wells Drilling

Turman—Lafayette Dix, W. C. Kennedy Co. 19.
Fairbanks—L. B. Hale, The Ohio Oil 1.
J. R. Thomas, Siosis Oil Corp. 2.
Wells drilling, 3.

VIGO COUNTY
Wells Drilling

Prairie Creek—William Riggs, Siosis Oil Corp. 2.
William Collins, The Ohio Oil 1.
Linton—Mary J. McDonald, J. B. Miller & Co. 1.
Riley—Section 14-11-8 E. D. Fagan & Co. 1.
Wells drilling, 4.

ALLEN COUNTY
Rigs

Maumee—D. Helmke, Robinson Bros. & Innis 3.
J. F. Butt, Estes, Manion & Co. 3.
Rigs, 2.

KNOX COUNTY
Well Drilling

Posey—John Keyser, Western Gulf Oil 1.

DUBOIS COUNTY
Well Drilling

Cass—William Meissner, Wheeler & Co. 1.

BENTON COUNTY
Wells Drilling

Near Oliva—Jesse Voliva, Chicago parties 1.

JOHNSON COUNTY
Well Drilling

Near Franklin—McQuiston, Universal Development 1.

MARION COUNTY
Well Drilling

South of Acton—Unknown parties 1.

MADISON COUNTY
Well Drilling

Pendleton—Willis Little, Pendleton Natural Gas 1.

MARTIN COUNTY
Well Drilling

Loogoottee—Kinner Dilley, Loogoottee Light & Heat 2.

MONROE COUNTY
Well Drilling

Polk—Saddle Creek Oil 2.

SPENCER COUNTY
Wells Drilling

Jackson—Doctor Hoover, D. D. Flannagan 1.
Chisney—Ayer, Penn-Indiana Oil 1.
Wells drilling, 2.

WARRICK COUNTY
Well Drilling

Greer—A. Dimmitt, Henley & Co. 1.

PERRY COUNTY
Well Drilling

Tobinsport—Mrs. Hal Weatherholt, Chancellor & Co. 1.

BARTHOLOMEW COUNTY
Well Drilling

Ohio—Lee, Granville Lee 2.

MIAMI COUNTY
Well Drilling

Near Converse—Unknown parties 1.

WHITE COUNTY
Well Drilling

Near Monon—Thomas Spencer, Conrad Fitland 1.

DECATUR COUNTY
Well Drilling

Greensburg—Unknown parties 1.

KENTUCKY-TENNESSEE

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	9	10	8	0	0	15	15
Allen	8	35	1	0	0	9	9
Barren	25	455	3	1	0	36	36
Ohio	26	2,044	4	0	2	21	23
Daviess	0	0	0	0	0	9	9
Hancock	0	0	0	0	1	0	1
Cumberland-Monroe	1	15	0	0	0	14	14
Clinton	1	125	0	0	0	3	3
Simpson	0	0	0	0	0	1	1
Butler	1	0	1	0	0	1	1
Adair	0	0	0	0	1	0	1
Grayson	0	0	0	0	0	2	2
Wayne	3	0	3	0	0	5	5
Lee-Owsley	0	0	0	0	3	6	9
Estill	11	29	1	0	0	4	4
Wolfe	1	0	1	0	0	0	0
Morgan	1	5	0	0	0	1	1
Powell	0	0	0	0	0	1	1
Lawrence-Johnson	1	7	0	0	0	0	0
Johnson-Magoffin	5	30	0	0	0	12	12
Floyd-Knott	4	0	0	4	0	3	3
Knox	1	0	0	1	0	4	4
Elliott	1	5	0	0	0	0	0
Menifee	1	0	0	1	0	0	0
Carter	0	0	0	0	0	2	2
Laurel	0	0	0	0	0	1	1
McCreary	1	8	0	0	0	2	2
Kentucky	101	2,768	22	7	7	152	159
Tennesse	4	455	0	0	0	31	31
Mississippi	1	0	1	0	12	18	30
Alabama	0	0	0	0	0	6	6
Florida	0	0	0	0	2	13	15
Total May	106	3,223	23	7	21	220	241
Total April	98	2,479	23	1	18	217	235
Difference	8	744	0	6	3	3	6

WELLS COMPLETED
WARREN COUNTY

Bowling Green—C. C. Davenport 222-A Wood Oil 32 10
George A. an Davenport, T. A. Sheridan 7 .... dry
Rebecca Russell, R. B. Walker 1 .... dry
John Larmon, R. B. Walker 1.... dry
Murray Kirby, R. B. Walker 2 .... dry
S. E. Tinsley, Lincoln Oil Producing 1 dry
J. F. Young, Penn Oil Prod. Synd. 7 dry
Joe Hobson, Joe Hobson 2 .... dry
Chas Cox, J. H. & Chas. G. Wright 19 dry

Wells completed 9
Production 10
Dry 8

ALLEN COUNTY

Scottsville—Lee Moore No. 2, Lee Moore 8 1
Lon Oliver, Harley & Coatsworth 7 . 1
W. H. Read, Harley & Coatsworth 8 1
Riley Hunt, Riley Hunt 7 1
Rube Osborne, Tracey Supply 3 1
Angeline McReynolds, Superior Oil Corp. 19 5
Gen'L Woods, Grace Oil 6 25
Cora Oliver, M. H. & S. Oil 7 .... dry

Wells completed 8
Production 35
Dry 1

BARREN COUNTY

Glasgow—Jones, J. R. Elliott 2 8
Kinslow, J. R. Elliott 15 10
Emery Moore Pool—Gassaway, Lyons, Hertzel & Co. 1 4
W. S. Smith, Craig Smith & Craig 18 6
Hall Baker Pool—Darter, A. W. Ziegler 9 50
Darter, A. W. Ziegler 10 .... dry
Richardson, Star Oil 18 10
Coral Hill—Carl Nichols, Esslinger Oil 1 .... gas
Haywood—Tom Smith, Little Colonel Oil 4 7
Tom Smith, Little Colonel Oil 5 .. 8
Knob Road—Hatfield, J. J. Sayer 11.. 7
Lecta Pool—J. H. Browning, Samsan Oil 5 50
Walter Browning, Samson Oil 2 50
Loden, Samson Oil & Davis 1 100
Peden, Samson Oil & Davis 1 .... dry
Johnson, Samson Oil & Davis 2 8
Nickols, J. D. White & Co. 2 40
Nickols, J. D. White & Co. 3 10
Nickols, J. D. White & Co. 4 10
Turner, Pedigo & Payne 1 6
Vance Taylor, Hunt, Leach & Mitchell 10 10
Vance Taylor, Hunt, Leach & Mitchell 11 60
S. Browning, Pedigo & Payne 3 6
Mayfield, Jones & Breeding 2 5
Pace, Merrifield & Hedges 1 .... dry

Wells completed 25
Production 455
Dry 2
Gas 1

OHIO COUNTY

Ambrose Pool—Scott Ambrose, Rex-Pyramid Oil 5 125
Scott Ambrose, Rex-Pyramid Oil 6 .. 125
Frank Lake, Rex-Pyramid Oil 2 75
Lake-Ambrose, Rex-Pyramid Oil 1 .. dry
Lake-Ambrose, Rex-Pyramid Oil 2 .. 150
J. R. Weller, James C. Ellis 11 100
J. R. Weller, James C. Ellis 12 175
J. R. Weller, James C. Ellis 13 125
Rodney Taylor, The Ohio Oil 3 175
Rodney Taylor, The Ohio Oil 4 200
Mary J. Elmore, Wood Oil 2 100
Mary J. Elmore, Wood Oil 3 100
Deane & Deane, Wood Oil 2 75
Deane & Deane, Wood Oil 3 10
Deane & Deane, Wood Oil 4 8
J. I. Bartlett, Lee & Engle 2 16
George Early, Creek Drilling & Hapgood 1 115
Fannie Lake, Creek Oil Co. & Hapgood 3 20
Evans—Ward Pool—Claude Farmer, Petroleum Exploration 1 .... dry
Panther Creek—A. Dickens, D. T. Bolling & Co. 1 15
Midkiff Pool—J. J. Midkiff No. 2, White Plains Oil & Gas 1 20
Howard heirs, White Plains Oil & Gas 3 30
Colyer Pool—Joe Bob Ellis, White Plains Oil & Gas 6 60
W. Coleman, White Plains Oil & Gas 2 .... dry
Mary C. Askins, Whiteville Oil 2 70
Wildcat—J. B. Dodson, Frank B. Russell 1 .... dry

Wells completed 26
Production 2044
Dry 4

CUMBERLAND-MONROE COUNTIES

Sulphur Creek—A. A. Huddleston, Southern Prod. & Refg. 12 15

CLINTON COUNTY

Wolfe River—Pierce Brothers, McClintock, Read & Heckathorn 7 125

BUTLER COUNTY

Wildcat—O. Pendley, Unknown parties 1 .... dry

WAYNE COUNTY

District 5—O. E. Gregory, Davy Oil 6.. dry
District 13—Coyle heirs, Superior Oil Corp. 1 .... dry
J. B. Stinson, Kennedy, Taylor & Co. 6 .... dry

Wells completed 3
Dry 3

ESTILL COUNTY

District 7—Rice Willis, McEldowney, Bowser & Ansler 1 .... dry
District 8—J. D. Alexander, Superior Oil Corp. 12 3
J. D. Alexander, Superior Oil Corp. 13 3
A. F. West & Co., Superior Oil Corp. 8 2
A. F. West & Co., Superior Oil Corp. 9 3
Green Campbell, Superior Oil Corp. 13 1
Isom Ballard, Superior Oil Corp. 18.. 5
T. W. Tyree, Superior Oil Corp. 17 5
Kate Sawyer, Brenner & Adams 8 .. 3
Bud Brineger, Wood Oil 12 5
S. M. Maple, Wood Oil 8 5

Wells completed 11
Production 29
Dry 1

WOLFE COUNTY

District 30—Granville Spencer, Hillside Oil 1 .... dry

MORGAN COUNTY

Ophir District—Mary Bays, Hargus Oil 13 5

LAWRENCE-JOHNSON

District 22—Bailey, Garrison & Townsend 6 7

JOHNSON-MAGOFFIN COUNTIES

District 27—J. J. Prater, Model Oil 2.. 3
District 29—James Love, Somerset Oil 15 10
District 30—L. D. Holbrook, George & Touma 10 3
District 31—J. H. Arnett, Bedrock Petroleum 27 10
B. F. Whitt, Oliver Jenkins & Co. 4.. 5

Wells completed 5
Production 30

FLOYD-KNOTT COUNTIES

District 21—Green Howard, Ivyton Oil & Gas 1 .... gas
Andrew Hoover, Ivyton Oil & Gas 1. gas
Frank Gearhart, United Carbon Black 1 .... gas
Unknown, Eastern Carbon Black 1... gas

Wells completed 4
Gas 4

KNOX COUNTY

Bailey Switch—Dizney, Dizney & McKee 1 .... gas

ELLIOTT COUNTY

District 34—J. B. Dials, Edra Lee Oil & Gas 6 5

MENIFEE COUNTY

District 9—Unknown, W. O. Bach 1.... gas

McCREARY COUNTY

District 3—Stearns Lumber, Pigeon Creek Oil 11 8

TENNESSEE
COMPLETED WELLS
CLAY COUNTY

Fox Springs—John Chilton, Pratt & Co. 1 25
Peterman Bend—James Arms, Parks & Wolfe 2 30

Wells completed 2
Production 55

JACKSON COUNTY

Lock Branch—W. R. Hawkins, Celina Oil 3 350

PICKETT COUNTY
Juetts Creek—Mary Harrison, Owens, Turner & Lewis 3. 50
MISSISSIPPI
MONROE COUNTY
Sec. 29-13-17—Durrett, Quincy Oil 1... dry
WARREN COUNTY
Wells Drilling
Bowling Green—John Crosby, R. B. Walker 1.
Edward Meyers, R. B. Walker 1.
Richard Carpento, R. B. Walker 7.
C. P. Amos, Lucky Strike Oil 2.
D. C. Butler, Thessen & Cupler 3.
Ora S. Davenport, Ruth Turner 5.
Keller, Alf F. Hugh s 1
C. G. Davenport No. 2, Onsel Brothers & Co. 16.
James Deathridge, Owen-Bentz-Tango Oil 3.
W. H. McGinnis, S. E. Silverthorn 3.
J. L. Jenkins, Johnson & Julian 12.
J. C. Davenport, W. B. Cauble 3.
D. N. Taylor, Morrow & Hays 1.
Fee, Cadet Oil & Gas 22.
C. G. Davenport 222-A, Wood Oil 33.
Wells drilling, 15.
ALLEN COUNTY
Wells Drilling
Scottsville—Jim Bradley, Reaher & Co. 1.
I. Strait, Dodson & Strait 1.
Connie Justice, James Doble 1.
Max Willoughby, Dye & Dye 1.
Jess Stitt, Frank Duchen 1.
Arla Wade, J. R. Poynter & Co. 1.
Angeline McReynolds, Superior Oil Corp. 19.
J. Willoughby, Ross Works 1.
W. H. Reed, Harley & Coatsworth 9.
Wells drilling, 9.
BARREN COUNTY
Wells Drilling
Emery Moore Pool—Howard, Jones & Breeding 1.
Deckard, Jones & Breeding 7.
DeLong, Allen & Hartzel 3.
Steffey, Ruby Oil 10.
Hade Myers, Mazel Oil 4.
Bishop, Bishop & Co. 2.
Dausey, Gassaway Brothers 1.
Hale, Merrifield-Sinning Oil 7.
Gassaway, Lyons, Hertzel & Co. 2.
W. S. Smith, Craig, Smith & Craig 19.
Gorby Pool—Thomas Wheeler, J. W. Porter & Co. 1.
Button Pool—Button, L. J. Emery, Jr., Sons 1.
Hall Baker Pool—Richardson, Star Oil 19.
Free, Star Oil 7.
Knob Road—Hatfield, J. J. Sayer 12.
Glasgow—Jones, J. R. Elliott 4.
Coral Hill Pool—Carl Nichols, Esslinger Oil 8.
Duff, Stohr Oil Corp. 1.
Jones Brothers, Moore & Scott 1.
Temple Hill—Foster, F. L. Gorby & Co. 1.
Haywood—Tom Smith, Little Colonel Oil Co. 6.
Lecta Pool—S. H. Boles, Kentucky Petroleum Synd. 3.
Pace, Wood Oil 2.
Nichols, Baird & Co. 1.
Loden, Samson Oil & Davis 2, 3.
Walter Browning, Samson Oil & Co. 3, 4.
S. Browning, Pedigo & Payne 4.
Vance Taylor, Hunt, Leach & Mitchell 12, 13.
Mayfield, Jones & Breeding 3.
Chisem, Bain & Kinnard 1.
Bunch, A. W. Ziegler 1.
Duff, T. L. Gorby 1.
Nichols, J. D. White & Co. 5.
Wells drilling, 36.
OHIO COUNTY
Rigs
Rough River—Widow Wilson, Dr. Lang & Co. 1.
St. Clair, W. P. Evans & Co. 1.
Wells Drilling
Ambrose Pool—Alonzo Crowe, The Ohio Oil 3.
Rodney Taylor, The Ohio Oil 5, 6.
Scott Ambrose, Rey-Pyramid Oil 7.
Lake-Ambrose, Rey-Pyramid Oil 3.
J. R. Weller, James C. Ell's 14, 15, 16, 17.
Mary J. Elmore, Wood Oil 4, 5.
Fannie Lake, Creek Drilling & Hapgood 2.
George Early, Creek Drilling & Hapgood 2.
Swope Pool—Guenther—Gant, Chicago, Petroleum Synd. 13.
Nannie Brown, Chicago Petroleum Synd. 7.
Wildcats—V. R. Ferguson, Wood Oil 1.
L. D. Fulkerson, The Ohio Oil 1.
S. V. Flowers, H. A. Henry 4.
Mark Renfrew, Cooper & Black 1.
Urban Miller, Rowe & Co. 1.
Unknown, Chenault Brothers & Thompson 1.
Rigs, 2; wells drilling, 21; total, 23.
DAVIESS COUNTY
Wells Drilling
Whitesville—C. A. Bell, Spice Dome Oil 1.
Eli Corder, Duncan & Co. 1.
F. C. Coomes, Petroleum Exploration 1.
M. H. Vaught, Petroleum Exploration 1.
Lashbrook, The Ohio Oil 1.
F. K. Higdon, The Ohio Oil 1.
John M. Miles, Bert Thompson 1.
G. H. Hinton, George Randolph 1.
J. M. Hogan, Creek Drilling & Hapgood 1.
Wells drilling, 9.
HANCOCK COUNTY
Rig
Pellville—C. H. Henning, E. M. Stebbins 1.
CUMBERLAND-MONROE
Wells Drilling
Crocus Creek—Elliott, Baird & Crawford 2.
Burkesville—D. Garmon, Wilcox Brothers 1.
Steele Fork—Sarah Shackles, Wilcox Brothers 5.
Goose Creek—Williams, Thresher, Shouse & Co. 1.
Bear Creek—J. M. Dickens, E. M. Treat & Co. 7.
Williams Prong—Sol Scott, Smith, Lang & Smith 1.
Frank Key, James Conner & Co. 1.
Sulphur Creek—Rush, Kanawha Oil 2.
J. B. Riddle, Hook & McComas 2.
Pulsey Creek—Long & Moore, McClintock, Reed & Co. 1.
Kettle Creek—H. L. Blythe, Connell, Zook & Co. 2.
J. Jones, Graves Brothers & Co. 1.
Milt Smith, Smith & Smith 1.
Hiram Wells, Foster Mitchell 1.
Wells drilling, 14.

CLINTON COUNTY
Wells Drilling
Wolf River—Amalon Phillips, Bryson & Stinson 1.
James Scott, Owens, Long & Co. 1.
Fannies Creek—M. A. Pierce, Sells Oil & Gas 1.
Wells drilling, 3.
SIMPSON COUNTY
Well Drilling
Franklin—John Pearce, A. L. Mullen & Co. 3.
BUTLER COUNTY
Wells Drilling
Morgantown—W. A. Newton, Fowler, Anderson & Hogan 1.
ADAIR COUNTY
Rig
Gradyville—Keith, Oklahoma parties 1.
GRAYSON COUNTY
Wells Drilling
Leitchfield—Carville, Robinson & Co. 1.
Jones, Robinson & Co. 1.
WAYNE COUNTY
Wells Drilling
District 2—T. T. Davis, Vulcan Oil 18.
H. C. Coffee, Somerset Oil 2.
District 3—Eli Phipps, John Dillon 2.
District 13—Cooper Coal, W. E. Woodrow 7.
Nancy Jones & Co., W. O. Southern, Jr., 7.
Wells drilling, 5.
LEE-OWSLEY COUNTIES
Rigs
Island Creek—McGeorge, Unknown parties 1.
Peters, Petroleum Exploration 1.
J. F. Brewer, Monroe Oil 2.
Wells Drilling
District 18—Wylie Bryant, Cook & Co. 2.
Treadway, Virgil Edwards 2.
John D. Fraley, Williamson & Caywood 5.
District 35—H. D. Parish, H. B. Sipple 4.
Ben Smith, Black Gum Oil 14.
District 36—Baker, Watkins & Co. 1.
Rigs, 3; wells drilling, 6; total, 9.
ESTILL COUNTY
Wells Drilling
District 7—John Bill Rogers, Mt. Springs Oil 15.
District 8—James Griffin, Superior Oil Corp. 20.
Joe Neal, Wood Oil 3.
S. M. Maple, Wood Oil 9.
Wells drilling, 4.
MORGAN COUNTY
Well Drilling
District 6—Kentucky Block Cannel Coal, Lewis Oil Corp. 3.
POWELL COUNTY
Well Drilling
District 15—John A. Rogers, W. O. Dunham 6.
JOHNSON-MAGOFFIN COUNTIES
Wells Drilling
District 25—J. P. Conley, Reno Oil 8.
District 27—W. L. May, S. J. Patrick 2.
District 29—F. M. Hale, Cooper & Sublett 4.
District 30—Lee Owens, Oliver Jenkins 2.
Bracken heirs, Phillips & Young 4.
W. M. Turner, F. R. Rice & Co. 1.
District 31—B. F. Whitt No. 1, Hupp, Duff & Co. 5.
B. F. Whitt No. 2, Hupp, Duff & Co. 6.
Clay Hammond heirs, Hupp, Duff & Co. 2.
Riggs Bailey, Hupp, Duff & Co. 2.
R. L. Salyer No. 2, Burning Fork Oil 5.
Salyer heirs, Oliver Jenkins & Co. 11.
Wells drilling, 12.
FLOYD-KNOTT COUNTIES
Wells Drilling
District 21—Marion Hunter, Ivyton Oil & Gas 1.
A. J. Shepard, Ivyton Oil & Gas 2.
Blucher Allen, Distill-Martin Oil & Gas 1.
Wells drilling, 3.
KNOX COUNTY
Wells Drilling
Indian Creek—North Jellico Coal, Petroleum Exploration 2.
Bailey Switch—Dizner, Dizney & McKee 2.
Sinking Creek—Foreman, Foreman Lumber 1.
Red Bird Creek—Beattyville parties 1.
Wells drilling, 4.
CARTER COUNTY
Wells Drilling
Smokey Hollow—Hugh Owens, R. A. Chiles 1.
Rough Camp Creek—Robbins & Watson 1.
Wells drilling, 2.
LAUREL COUNTY
Well Drilling
South of London—Standard Oil of Ky. 1.
McCREARY COUNTY
Wells Drilling
Pleasant Run—McCreary County Oil & Gas 1.
Asher, Sampson & Co. 2.
Wells drilling, 2.
TENNESSEE
CLAY COUNTY
Wells Drilling
Celina—Willie White, Blick & Co. 2.
John Pennington, Thomas Wimmer 1.
Charles Short, Burman & Pierce 1.
Neeley, H. Z. Clark Oil 1.
Sanderson Thurman, Whitenbet Gas 1.
Near Oakley, Empire Gas & Fuel 1.
E. S. Dalton, Unknown parties 1.
Mrs. Mary Williams, A. L. Pratt & Co. 4.
Near Tinsley, Leach & Co. 1.
Mrs. Coffee, E. G. Brandenburg 1.
C. A. Greenwood, E. G. Brandenburg 1.
Red Boiling Springs, Palmer Oil Corp. 1.
Thomas F. Dailey, Livingstone parties 1.
Poor Farm, Chicago Petroleum Synd. 1.
Barlow Langford No. 3, Cumberland Valley Oil 2.
James Arms, Moorman & Herndon 3.
James Arms, Parks & Wolfe 3.
James Arms, Pratt & Co. 2.
Ben Bailey, J. W. Young & Co. 1.
Wells drilling, 19.
JACKSON COUNTY
Wells Drilling
Gainesboro—W. Rad Hawkins, Celina Oil 4, 5.
Johnson, The Ohio Oil 1.
Smith, White Plains Oil & Gas 1.
West of Gainesboro—W. S. Hughes 1.
Wells drilling, 5.
PICKETT COUNTY
Wells Drilling
Juetts Creek—Luther Martin, Bryson & Stinson 1.
B. C. Arney, Clark Oil 3.
Wells drilling, 3.

PUTNAM COUNTY
Wells Drilling
Sinking Creek—J. A. Drake & Co. 1.
Buffalo Creek—Tennessee-Alabama parties 1.
Wells drilling, 2.
MACON COUNTY
Well Drilling
Long Fork Creek—Dr. W. W. Turner, John H. McClurkin 1.
OVERTON COUNTY
Well Drilling
Eagle Creek—Richardson, Lawrence Orlow 1.
TROUSDALE COUNTY
Well Drilling
Near Hartsville—Goad, The Ohio Oil 1.
MISSISSIPPI
MONROE COUNTY
Rigs
Amory—West, Amory Petroleum 1.
13-7e—Mawk, L. B. Mawk 1.
Wells Drilling
Sec. 22-15-17—Frank Rye, Natural Gas & Fuel Corp. 1.
Sec. 4-13-18—Crook, Buffalo Oil & Gas 1.
Sec. 12-13-18—Nancy Carter, Amory Petroleum 2.
Sec. 8-13-17—Hall, Amory Petroleum 1.
Sec. 25-13-19—Acker, Sutton & Co. 1.
Rigs, 2; wells drilling, 5; total, 7.
FRANKLIN COUNTY
Rig
Jackson—Pearl River, New York parties 1.
COPIAH COUNTY
Well Drilling
Sec. 6-2-1n,—Didlake, Olympic Oil & Gas 1.
ATTALA COUNTY
Rig
Alta—E. B. Jones, Unknown parties 1.
ITAWAMBA COUNTY
Rigs
Near Fulton—Due, Steele Oil Co. of Los Angeles 1.
Sec. 16-10-10—Evans, Amory Petroleum 1.
Near Hopewell—Ewing & McAlphin 1.
Rigs, 3.
SIMPSON COUNTY
Rig
Sec. 34-4-13—B. Livingstone & Co. 1.
Well Drilling
Sec. 15-2-4—Kendall, Graves & Jones interests 1.
Rigs, 1; wells drilling, 1; total, 2.
YAZOO COUNTY
Well Drilling
Sec. 25-13-1—W. Reed, Free Run Oil 1.
WASHINGTON COUNTY
Well Drilling
Sec. 30-14-9—Allen, Alhambra Oil 1.
TALLAHATCHIE COUNTY
Well Drilling
Sec. 32-6—Bardwell Service & Co. 2.
MADISON COUNTY
Wells Drilling
Sec. 29-10-4e—Trolis, Transcontinental Oil 1.
Sec. 23-10-3—McCracken, Roxana Petroleum 1.
Wells drilling, 2.
STONE COUNTY
Well Drilling
Sec. 36-3-12w—Near McHenry, Magic City Oil 1.
HINDS COUNTY
Well Drilling
Near Edwards—Baker & Co. 1.
RANKIN COUNTY
Well Drilling
Sec. 24-3-3e—Bell Pine, D'Lo Development 1.
WEBSTER COUNTY
Sec. 15-21-11—Hensley, Cumberland Oil 1.
LEAKE COUNTY
Well Drilling
Near Conway—Pittsburgh Oil & Development 1.
LEE COUNTY
Rig
Sec. 14-8-6—Buffalo Oil & Gas 1.
NESHOBA COUNTY
Rig
Near Philadelphia—S. B. King & Co. 1.
ALCORN COUNTY
Rig
Near Corrinth—A. M. Keisker 1.
WARREN COUNTY
Well Drilling
Near Charleston—Rich & Co. 1.
JEFFERSON COUNTY
Well Drilling
Sec. 11-6n-1e—W. Burnett Bassfield Oil Co. 1.
Rigs, 13; wells drilling, 18; total, 31.
ALABAMA
MORGAN COUNTY
Well Drilling
Sec. 6-6-4—English, Decatur Oil 1.
HALE COUNTY
Well Drilling
Greensburg—Hale Oil 1.
SHELBY COUNTY
Well Drilling
Chelsea—Scott, Cooksey & Co. 1.
WILSON COUNTY
Well Drilling
Selma—Blue Belle Oil 1.
FRANKLIN COUNTY
Well Drilling
Sec. 28-18-14—Hobson Pittsburgh Oil & Development 1.
MARION COUNTY
Well Drilling
Sec. 29-11-14—Clark, P. J. McAlpin 1.
Wells drilling, 6.
FLORIDA
MONROE COUNTY
Sec. 6-51-31—Florida Natural Resources 1.
Sec. 35-34—Biscayne Oil & Gas of Miami 1.
Rigs, 2.
POLK COUNTY
Well Drilling
Sec. 40-32-27—West, Frostproof Land & Oil 1.
GLADES COUNTY
Wells Drilling
Sec. 13-39-32—Brewton, H. McCurdy & Co. 1.
Sec. 5-38-2—Langford & Co. 1.
Sec. 5-38-32—Seminole Petroleum Corp. 1.
Wells drilling, 3.
DADE COUNTY
Well Drilling
Sec. 19-54-35—Tamami Trail, Miami Oil & Natural Gas 1.
JEFFERSON COUNTY
Well Drilling
Sec. 19-2-5—E. Miller, Gossard, Southern States Oil Corp. 1.

MANATEE COUNTY
Well Drilling
Sec. 15-34-17—Robinson, Speedwell Petroleum Synd. 1.
LEON COUNTY
Well Drilling
Sec. 20-2-1e—Rhodes, Gulf Oil Development 1.
HERNANDO COUNTY
Well Drilling
Sec. 20-23-9—Unknown parties 1.
PASCO COUNTY
Well Drilling
Sec. 25-25-16e—Unknown parties 1.
OKEECHOBEE COUNTY
Well Drilling
Sec. 22-26-35—Opal district, Preston & Gaines 1.
SARASOTA COUNTY
Well Drilling
Four miles south Venice—Ringling, John Ringling 1.
HIGHLANDS COUNTY
Well Drilling
Near Seabring—Unknown parties 1.

ROBINSON
Orifice Fitting

Fitting complete takes the place of all old style "hook-ups."

With this fitting there is a very appreciable saving in cost of labor and material and a marked saving in time over the old style method of installing the orifice plates. The whole device occupies no more space than an ordinary gate valve. The changing of plates is greatly simplified and the orifice is always centered in the line. Plates can be changed in 3 to 15 minutes thus assuring better metering.

There is very little gas lost and no hazard due to leakage when changing plates.

There is no by-pass valve to stick open and leak, thus causing a big meter inaccuracy. The gas cannot leak by the ROBINSON FITTING.

Made in sizes 2-inch to 24-inch in cast iron and 2-inch to 16-inch in steel.

All fittings are drilled for flange connections and are plugged when the 2½" and 8" connection is used.

Write for descriptive folder.

Robinson Orifice Fitting Co.
1435 Santa Fe Ave., Los Angeles, Calif.
B & A Specialty Co., 404 West First St., Tulsa, Okla.
Westcott & Greis, Inc., Tulsa, Okla., and Dallas, Texas

J. Edward Jones
342 Madison Avenue
New York City

FOR SEVERAL YEARS
a
Constant Purchaser
of
OIL PRODUCING
ROYALTIES
in
Oklahoma and Kansas

Banking Connections
and
Field Representatives
throughout the
Mid-Continent
Affording Prompt Action

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for April

Company—	Month	Daily Av.
*Prairie P. L. Co.	4,380,000	146,000
Gulf P. L. Co.	1,583,963	52,799
Texas P. L. Co.	941,632	31,388
Magnolia Pet. Co.	1,562,069	52,069
Cosden P. L. Co.	1,078,448	35,948
*Sinclair P. L. Co.	2,490,000	83,000
Empire P. L. Co.	1,041,497	34,717
*Other lines	12,720,000	424,000
Total April	25,797,609	859,921
Total March	26,152,714	843,636
Difference	355,105	16,285

Shipments

†Prairie P. L. Co.	5,484,826	182,827
Gulf P. L. Co.	1,288,099	42,936
Texas P. L. Co.	645,712	21,528
Magnolia Pet. Co.	1,286,241	42,875
Cosden P. L. Co.	954,712	31,824
†Sinclair P. L. Co.	2,537,233	84,574
Empire P. L. Co.	1,177,622	39,254
*Other lines	11,400,000	380,000
Total April	24,774,464	825,818
Total March	24,880,289	802,589
Difference	115,835	23,229

Stocks

*Prairie Oil & Gas Co.	30,000,000
*Prairie P. L. Co.	2,000,000
Gulf P. L. and Gypsy Oil Co.	8,257,305
The Texas Company	4,248,791
Magnolia Pet. Co.	4,833,023
Cosden P. L. Co.	2,446,239
*Sinclair Crude Oil Pur. Co.	19,400,000
Empire P. L. Co.	2,695,213
Carter Oil Co.	14,657,522
*Other lines	10,500,000
Total April	99,083,093
Total March	96,459,101
Difference	2,623,992

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming and Texas crude. Note—Stocks do not include approximately 3,500,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 2,500,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPE LINES
Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar. '27	Apr. '27
Nat. Transit	163,378.73	154,870.84
S. W. Pa. P. L.	100,592.96	88,641.89
Eureka P. L.	416,053.14	384,040.85
Buckeye P. L. (Macksburg)	360,086.67	330,728.39
Buckeye P. L. (Cleveland)	12,262.69	11,229.68
Buckeye P. L. (Lima, etc.)	126,642.07	117,721.95
Indiana P. L.	10,472.58	10,277.07
Cumberland P. L.	276,896.95	257,132.67
N. Y. Transit	24,065.99	22,203.37
Tidewater P. L.	189,659.31	178,148.47
Pure Oil	175,516.93	167,608.74
Emery P. L.	57,577.05	54,707.36
Paragon Dev.	29,944.63	27,120.07
Pittsburgh P. L.	5,324.14	5,667.22
Stoll Ref.	12,195.78	.....
Total	1,960,669.62	1,810,098.57
Daily average	63,247.41	60,336.60

Note: Indian Refining Co. also reported other receipts of 320,788.98 bbls. Paragon Refining Co. had other receipts of 114,945.43 bbls. Paragon Development had other receipts of 1,682.19 bbls. Pure Oil had other receipts of 9,751.43 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar. '27	Apr. '27
Nat. Transit	371,407.93	291,282.87
S. W. Pa. P. L.	394,577.29	358,167.37
Eureka P. L.	186,306.27	165,326.49
Buckeye P. L. (Macksburg)	162,229.20	170,657.33
Buckeye P. L. (Cleveland)	1,218.35	975.08
Buckeye P. L. (Lima, etc.)	851,500.60	945,498.20
Indiana P. L.	995,741.13	963,978.82
Cumberland P. L.	128,346.83	125,745.62
N. Y. Transit	97,577.19	164,631.87
Northern P. L.	161,689.55	181,685.31
Tidewater P. L.	108,290.33	118,938.50
Pure Oil	158,078.86	181,289.98
Emery P. L.	55,643.19	56,289.21
Paragon Ref.	103,362.86	113,995.67
Indian Ref.	329,602.47	321,923.45
Paragon Dev.	35,811.95	30,782.89
Pittsburgh P. L.	5,715.31	5,626.88
Total	4,147,099.11	4,206,795.53
Daily average	133,777.39	140,226.52

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of March and April were as follows:

	Mar. '27	Apr. '27
Nat. Transit	987,165.64	1,122,327.78
S. W. Pa. P. L.	716,181.84	736,241.91
Eureka P. L.	1,438,177.29	1,429,347.79
Buckeye P. L. (Macksburg)	457,603.45	438,197.58
Buckeye P. L. (Cleveland)	41,573.95	42,148.71
Buckeye P. L. (Lima, etc.)	3,545,161.61	3,868,077.13
Indiana P. L.	592,303.39	598,145.91
Cumberland P. L.	583,281.33	587,606.67
Southern P. L.	458,081.93	421,389.46
N. Y. Transit	803,826.11	750,482.15
Northern P. L.	485,204.86	448,142.25
Pure Oil	498,169.44	495,796.06
Emery P. L.	7,599.54	6,418.11
Paragon Ref.	27,096.71	27,679.47
Indian Ref.	141,081.41	130,280.76
Paragon Dev.	8,085.46	6,239.54
Pittsburgh P. L.	3,449.67	3,773.55
Total	10,794,043.63	11,112,294.83
Increase	674,881.27	318,251.20

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of March and April, showing the gross stocks of the above fields:

	Mar. '27	Apr. '27
Pennsylvania	3,781,445.01	3,761,619.39
Lima	810,425.15	839,740.90
Kentucky	1,067,209.97	1,143,953.67
Mid-Continent	5,041,917.37	5,269,128.72
Illinois	143,046.13	97,852.15
Total	10,794,043.63	11,112,294.83

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
January	62,638	56,831	55,630	56,209
February	68,023	60,606	60,394	61,298
March	68,721	60,575	61,644	63,247
April	71,058	63,062	63,019	59,337
May	63,942	59,217	60,580	.....
June	63,230	61,270	64,131	.....
July	64,208	62,639	63,206	.....
August	59,942	59,686	61,815	.....
September	62,930	62,510	64,639	.....
October	64,976	60,995	62,704	.....
November	56,282	59,360	61,774	.....
December	55,814	57,974	58,755	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
January	145,518	157,889	156,056	141,227
February	148,732	160,863	159,488	138,534
March	147,098	154,591	150,239	133,777
April	147,611	151,429	152,371	140,227
May	134,997	146,995	160,998	.....
June	143,010	149,467	160,257	.....
July	124,187	161,338	160,945	.....
August	123,120	161,730	151,929	.....
September	127,325	156,719	158,915	.....
October	123,170	145,388	161,132	.....
November	124,400	143,582	152,668	.....
December	151,392	150,162	136,428	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
January	11,353,276	9,859,170	9,716,001
February	11,192,924	9,579,354	10,119,152
March	11,158,297	9,438,292	10,794,044
April	11,062,082	9,805,851	11,112,294
May	11,207,562	9,531,757	.....
June	11,093,796	9,585,904	.....
July	11,067,453	9,734,687	.....
August	10,974,481	9,668,947	.....
September	10,781,753	9,432,732	.....
October	11,086,850	9,269,806	.....
November	11,068,158	9,257,667	.....
December	10,458,445	9,454,512	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

1926—	Runs	Shipments	Stocks
April	3,137.40	4,519.68	12,459.02
May	2,933.29	2,096.35	13,296.96
June	3,217.62	1,655.15	14,858.43
July	3,025.86	4,075.11	13,809.13
August	2,886.59	2,121.21	14,574.54
September	2,788.18	3,373.06	13,989.66
October	2,991.86	2,307.76	14,671.76
November	2,810.60	1,664.55	15,817.81
December	2,847.52	5,561.11	13,103.72
1927—			
January	2,641.54	1,470.42	14,274.84
February	2,764.30	1,082.82	15,956.32
March	2,587.20	1,878.56	16,664.96

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks May 1	2,476,177.30
Runs from wells	542,806.62
Other receipts	131,751.18
Regular deliveries	382,195.30
Other deliveries	479,034.98

The amount of Illinois oil run by the Tidewater Pipe Co. in April was 50,420.35 bbls. and deliveries were 62,622.57 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1926—	Runs	Deliveries
April	610,957.04	487,604.90
May	682,416.67	498,456.90
June	693,102.34	558,054.94
July	713,490.66	490,092.82
August	701,795.92	555,706.50
September	688,798.66	516,682.96
Ocotber	681,648.96	531,467.30
November	651,263.33	498,439.37
December	668,909.58	537,947.61
1927—	Runs	Deliveries
January	621,421.03	530,085.30
February	595,831.16	476,956.71
March	727,593.91	554,947.40
April	593,225.97	444,618.40

Tidewater Pipe Co., Ltd., also delivered in April, 191,291.56 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS						Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	
January	5,097	8,258	26,290	15,932	14,807	70,355	.....	.....	.....	806	806		71,161
February	26,214	3,036	32,750	8,571	18,250	88,821	.....	.....	.....	.....	.....		88,821
March	16,616	5,484	56,710	13,871	13,419	106,097	.....	.....	.....	484	.....		106,581
April	12,667	4,367	47,667	15,100	13,300	93,100	.....	.....	.....	.....	.....		93,100

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	
January	16,032	8,226	64,387	4,065	31,064	123,774	7,903	43,629	.....	4,123	55,645	179,419
February	12,000	14,429	87,286	5,321	26,714	145,750	4,786	46,786	2,143	3,607	57,322	203,072
March	4,677	13,161	63,484	9,226	26,129	116,677	6,743	36,258	2,419	4,871	50,290	166,967
April	22,700	9,033	62,033	6,067	26,567	126,400	5,067	18,033	.....	.....	23,100	149,500

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
1926—										
May:	Month	18,667,144	14,507,008	11,940,797	3,516,640	5,482,939	2,231,938	3,459,489	3,317,000	63,123,955
	Daily average	602,166	467,968	385,187	113,440	176,869	71,998	111,596	107,000	2,036,324
June:	Month	18,269,417	14,073,510	11,782,200	3,346,470	5,064,760	2,206,830	3,437,905	3,365,000	61,546,092
	Daily average	608,981	469,117	392,740	111,549	168,822	73,561	114,597	112,167	2,051,536
July:	Month	18,743,199	14,657,482	13,983,759	3,582,267	5,019,892	2,173,813	3,336,664	3,420,000	64,917,076
	Daily average	604,619	472,822	451,089	115,557	161,932	70,123	107,634	110,323	2,094,099
August:	Month	18,765,080	14,618,236	17,093,586	3,681,436	4,878,191	2,190,739	3,457,697	3,339,500	68,024,465
	Daily average	605,325	471,556	551,406	118,756	157,361	73,896	111,538	107,726	2,194,338
September:	Month	18,104,954	14,466,510	17,580,100	3,450,060	4,602,230	2,079,840	3,141,123	3,330,000	66,755,817
	Daily average	603,498	482,217	586,003	115,002	153,441	69,328	104,704	111,000	2,225,194
October:	Month	18,966,058	15,730,689	19,001,388	3,714,637	4,625,138	2,166,559	3,071,720	3,398,000	70,664,189
	Daily average	611,808	507,119	612,948	119,827	149,198	69,889	99,088	109,613	2,279,490
November:	Month	19,173,128	16,876,950	18,593,160	3,593,490	4,299,480	2,054,911	2,842,587	3,216,000	70,649,706
	Daily average	639,104	562,565	619,772	119,783	143,316	68,497	94,752	107,200	2,354,990
December:	Month	30,276,950	17,882,908	19,753,591	3,654,156	4,266,189	2,018,734	2,658,301	3,313,000	72,823,829
	Daily average	654,095	576,868	637,212	117,876	137,619	65,120	85,752	106,871	2,351,414
1927—										
January:	Month	20,184,872	19,030,745	18,546,990	3,668,323	4,076,469	1,905,670	2,610,303	3,332,500	73,355,772
	Daily average	651,126	613,895	598,290	118,333	131,499	61,471	84,203	107,500	2,366,315
February:	Month	17,982,711	19,752,348	16,483,292	3,349,416	3,574,256	1,784,104	2,385,135	3,007,200	68,318,462
	Daily average	642,240	705,441	588,689	119,622	127,652	63,718	85,183	107,400	2,439,945
March:	Month	19,835,724	22,480,921	18,417,100	3,672,849	3,853,920	1,896,425	2,466,798	3,620,800	76,244,537
	Daily average	639,862	725,191	594,100	118,479	124,320	61,175	79,574	116,800	2,459,501
April:	Month	19,466,087	22,289,160	17,800,740	3,530,490	3,378,240	1,994,730	2,615,770	3,474,000	74,540,217
	Daily average	648,870	742,972	593,358	117,683	112,608	66,491	87,192	115,800	2,484,976
Total 12 month		228,435,324	206,356,467	200,976,703	42,760,334	53,122,704	24,696,090	35,483,492	40,133,000	831,964,014
		625,850	565,360	550,621	117,151	145,541	67,661	97,215	109,953	2,279,353

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1927
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Stocks
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13,103.72

14,274.84
15,968.32
16,246.36

report of
is:
476,177.38
542,806.62
131,751.13
382,136.31
479,034.84

by the
50,420.35
2.57 bbls.
he Illinois
deliveries

487,304.80
498,456.90
558,054.94
490,092.83
555,766.59
516,082.06
531,467.38
496,439.27
587,947.61
Deliveries
530,085.98
476,950.71
554,947.43
444,818.49
livered in

Total
All Ports
71,161
88,821
106,581
93,100

Total
All Ports
178,419
201,673
146,947
143,588

Total
3,122,966
2,036,324
1,546,992
2,051,536
4,917,076
2,094,099
8,024,465
2,194,338
6,756,517
2,225,194
0,666,189
2,279,490
0,649,706
2,354,399
3,823,339
2,381,414

3,356,772
2,366,315
8,318,462
2,439,945
6,244,531
2,469,501
4,649,217
2,484,974

1,964,014
2,279,350

ENDURANCE

The newspapers said that Lindbergh undertook his glorious adventure *alone*—but, of course, the newspapers are mistaken.

How can a man be *alone* when the hopes, prayers and well wishes of a hundred million admirers accompany him? How can a man be *alone* when the entire civilized world is with him in spirit—thrilling to his thrills, sharing in his fears, glorying in his triumph?

Driving irresistibly on thru the silent, hungry darkness of an Atlantic night, Lindbergh may have been lonely, but certainly he was not *alone.*

Grit, stamina and endurance are marvelous attributes—in oil industry pumps as well as in aviators!

GASO PUMP & BURNER MFG. CO. *Tulsa, Oklahoma*

. . . . . .

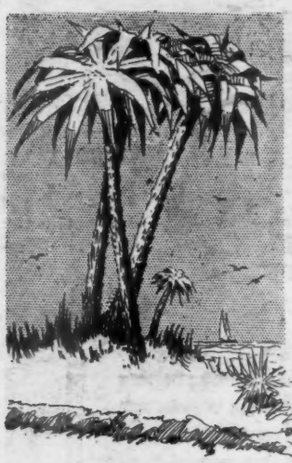
Pumps that Last and Last and Last

Gaso Walking Beam Pump No. 601—450 to 600 pound pressures. Especially adapted to leases where no pumping power is available. Straight-line pull prolongs life, reduces wear.

Gaso Walking Beam Pump No. 604—Designed for gas or vacuum. Connects to the walking beam with either wood or pipe pittman. Will withstand world of abuse.

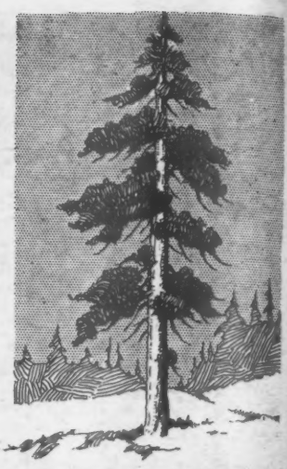
GASO PUMPS

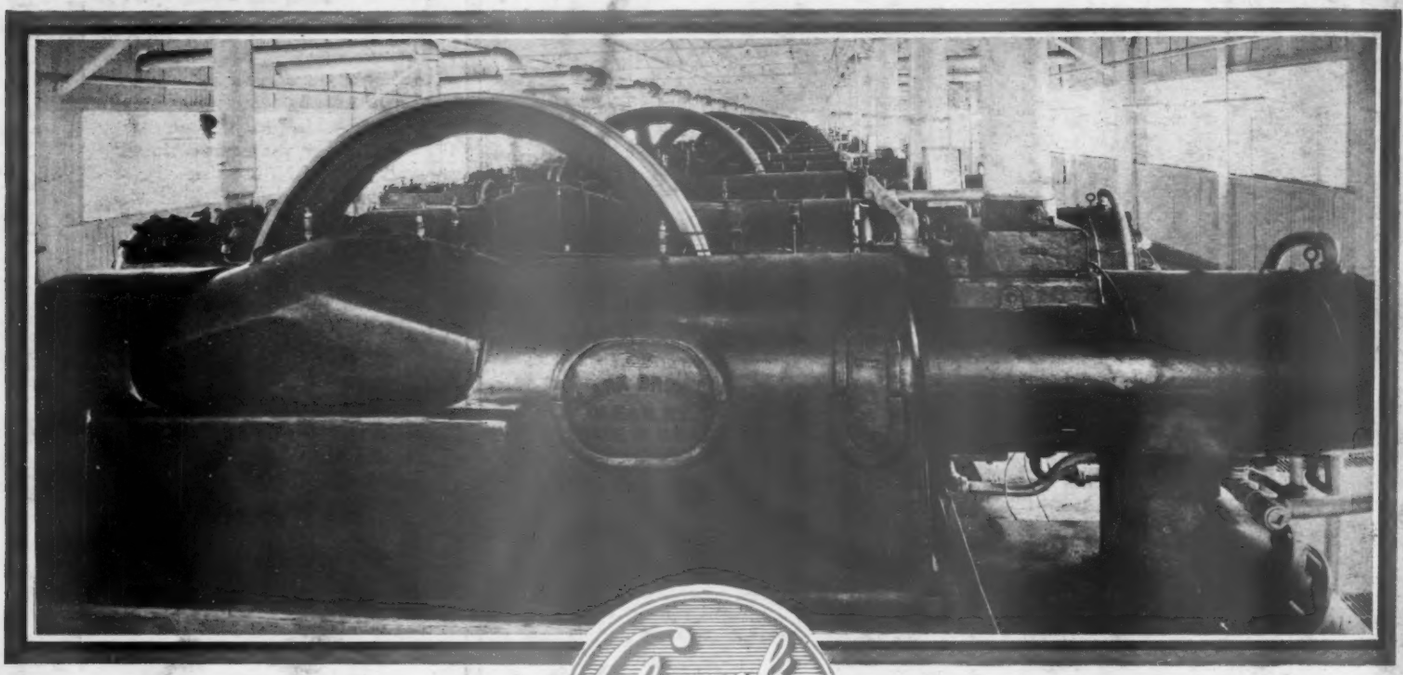
for every oil industry need



From Palm Tree to Pine

Clark Compressors have surrounded themselves with an atmosphere of prestige that Quality alone could have won





To speak of the traditional craftsmanship that inspires the Clark compressor builder without mentioning the alertness of the engineering staff whose triumphs are partially responsible for the Clark Compressor's world wide renown, would be an injustice to the compressor itself.

For on the close relation of these two factors at the Clark plant rests the Clark Compressor's chief claim to distinction, and from this relationship springs the reason why this remarkable compressor stands cylinder head and fly-wheel above the common herd. Designed with Tomorrow's compressor needs in mind, they are built to answer Today's demands as no other compressor can.

Install Clark Compressors in your next plant and know how completely this modern compressor equipment bridges the gap left open in other types; how nearly they approach compressor perfection. You will understand then why Petroleum Engineers from palm tree clime to pine, have accorded the Clark Compressor the honors reserved for the ideal compressor. For further information concerning Clark Compressors, either single or twin type, tandem type for air or gas lift work, Clark drilling engines, senior or junior type, address Clark Bros. Company, Olean, N. Y. or 125 W. First St., Tulsa, Oklahoma, and Smith-Booth-Usher Company, 226 S. Central Ave., Los Angeles, or 50 Fremont St., San Francisco. Warehouses at McCamey and Sweetwater, Texas, and Artesia, N. M.

Clark Bros. Co. Olean, N. Y.

CLARK